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**PUBLIC CONSULTATION
ON MUNICIPAL
SOLID WASTE MANAGEMENT -
"TOWARDS A SUSTAINABLE
WASTE MANAGEMENT SYSTEM"
JULY TO OCTOBER, 1990**

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1991

Public consultation on municipal
solid waste management :
"towards a sustainable waste
management system," July to

79678

ISBN 0-7729-8584-7

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MANAGEMENT - "TOWARDS A SUSTAINABLE WASTE
MANAGEMENT SYSTEM", JULY TO OCTOBER, 1990

WASTE MANAGEMENT BRANCH
ONTARIO MINISTRY OF THE ENVIRONMENT

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EXECUTIVE SUMMARY

Public consultation on municipal solid waste management was undertaken during the period July to October, 1990. Concerned citizens, business, public interest groups and all levels of government were consulted to elicit views on how best to create a sustainable waste management system in Ontario. The goal of the public consultation program was to hear the public's ideas and concerns about the current waste management system in order that a consensus could be reached for improvements during the decade ahead.

A discussion paper entitled "Towards a Sustainable Waste Management System" was prepared in support of the public consultation program and utilized as a framework for discussion. The discussion paper outlines Ontario's goal for municipal solid waste management, the underlying principles of a sustainable waste management system and the existing waste management programs supported by the Ontario Government. Discussions touched on how best to improve municipal solid waste management during the decade ahead and focused on important topics such as planning, financial sustainability, the 3Rs of waste management as well as treatment and disposal.

Thirty presentations were made by Ministry staff to a wide variety of external groups who requested the opportunity to convey their ideas and concerns. Widely publicized public forums included events at Windsor, North Bay, Sudbury, Thunder Bay and Scarborough. Other audiences for Ministry presentations, in addition to concerned citizens, included representatives of key stakeholder sectors such as industrial/commercial waste generators, the waste management industry, federal and municipal officials and public interest groups. More than one hundred letters were received by the Ministry from a variety of sources as a direct consequence of the public consultation program.

The purpose of this report is to summarize the comments and advice given to the Ministry arising from the public consultation program on municipal solid waste management. Several hundred public comments were received by the Ministry both in terms of today's concerns as well as ideas for the future. The tone and frequency of each specific public comment expressed by a wide variety of individuals was highly variable. In an effort to distil the public comments into helpful guidance to the Ministry on the future priorities for municipal solid waste management, sources of each comment are identified where possible, along with an indication of the frequency where similar comments were

received. Public comment sources were divided into the following six stakeholder groups: concerned citizens with no known affiliation; public interest groups; municipal officials and associations; federal officials; industrial/commercial waste generators and the waste management industry.

In varying degrees, consensus emerged in a variety of broadly-based areas as the product of collective public advice to both the Province of Ontario and the Ontario Ministry of the Environment. A summary of the collective public advice on municipal waste management is as follows:

- ° A Provincial environmental strategy is needed that incorporates municipal solid waste as one component of a comprehensive plan.
- ° An aggressive waste management education program is needed that targets a wide range of audiences and focuses primarily on effective ways to divert waste from disposal.
- ° The environmental assessment and Ministry approvals process must be streamlined to enable the development of waste management facilities to keep pace with the need.
- ° A provincial waste abatement strategy is needed that outlines precisely how Ontario will achieve the waste diversion targets.
- ° A new emphasis is needed on waste diversion from disposal through accelerated waste reduction and reuse initiatives, particularly applied towards product manufacturers, the packaging industry and the industrial/commercial/institutional waste generators.
- ° The full cost of waste management should be accounted for as a matter of routine and reported to the public.
- ° Tire tax revenues should be applied exclusively towards a waste tire management solution.
- ° Comprehensive waste management planning should be undertaken in all areas of Ontario.
- ° Waste management responsibility and authority should be clarified by amending municipal legislation and giving municipalities explicit powers currently assumed by the province, particularly in the area of 3Rs.

- Regulation 309 Municipal should be amended to clarify landfill site operating criteria and upgrade sites where necessary, to comply with new standards.
- The Ontario Government and Ministry of Environment positions are needed on energy from waste.

1.0 INTRODUCTION

The purpose of this report is to summarize the comments and advice given to the Ministry arising from the public consultation program on municipal solid waste management. Summary advice and feedback includes the public comments derived from all external sources including correspondence received by the Ministry, dialogue arising from meetings with a variety of individuals, groups and associations as well as selected newspaper reporting. A separate open file report is also available for central reference that contains the full text of correspondence and open discussion arising from staff presentations.

The goal of the public consultation program was to hear the public's ideas and concerns about the current waste management system in order that a consensus could be reached for improvements during the decade ahead. The Ministry sought comments from the public to help determine future waste management policy and direction. In support of the public consultation goal, efforts were made to provide the public with information upon request, on all of the current Ontario Government supported waste management initiatives, programs, policies and legislation.

2.0 PUBLIC CONSULTATION METHODOLOGY

The public consultation program was designed to provide opportunities for open dialogue with key stakeholder groups who share an interest in the future of waste management in Ontario. Waste Management Branch staff coordinated the program and responded to group invitations to make presentations, answer questions and to listen sensitively to the ideas and concerns expressed.

An environmental consulting firm specializing in public consultations was retained to document all forms of public response and to prepare a summary report (Appendix A, "A Report on Public Consultation undertaken for the Ministry of Environment on its discussion paper: Towards a Sustainable Waste Management System, Perley and Hurley Ltd.). The public consultation program was promoted province-wide and supported by many staff from Head Office Branches, Regional and District Offices who also share in the responsibility of delivering the Ministry's waste management programs.

The primary tool used to elicit public response in the consultation program was the discussion paper entitled, "Towards a Sustainable Waste Management System." The discussion paper was prepared by Ministry of Environment staff in cooperation with other Ministries that are directly involved in various aspects of the Ontario Government waste

management programs including the Ministries of Government Services, Natural Resources, Energy, Municipal Affairs, Industry, Trade and Technology, Northern Development and Mines and Treasury and Economics.

The discussion paper outlines Ontario's goal and the underlying principles of a sustainable waste management system. It also describes the role of each key stakeholder group, progress made to date towards achieving a sustainable system and offers a broad framework for discussion of options for the decade ahead. The four umbrella categories that are provided to support discussion on the decade ahead include planning, financial sustainability, the 3Rs of waste management and, treatment and disposal.

The discussion paper was designed to act as a communications tool that serves as a framework for ongoing dialogue among concerned citizens, business, public interest groups and all levels of government about the future of waste management in Ontario. It was not intended to serve as a device that would constrain the boundaries of discussion or limit the scope of helpful advice. A central theme of the discussion paper is that the combined efforts of all, not just the Ontario Government but the general public, the private sector and all three levels of government are needed to create a sustainable waste management system. The discussion paper was intended to elicit the public's views on how best to achieve Ontario's goal by the combined efforts of all parties, not simply but most often focusing upon future changes to the Ontario Government's existing program, policies and legislation.

The discussion paper was released to the public along with a news release on July 9, 1990 (see Appendix D). The news release described some highlights of the discussion paper and offered Ministry staff assistance to groups interested in presentations on the concept of a sustainable waste management system. More than 1,200 copies of the discussion paper and news release were mailed directly to the press, interest groups, industry and trade associations as well as municipalities, provincial MPPs, federal MPs in Ontario and Environment Departments throughout Canada. Several hundred subsequent requests for copies of the discussion paper from interested parties were also satisfied by many of the Ministry's offices, throughout the duration of the public consultation program.

Thirty presentations were made by Waste Management Branch staff to a wide variety of external groups who requested the opportunity to exchange their views directly (see Appendix E). Widely publicized public forums included events at Windsor, North Bay, Sudbury, Thunder Bay and Scarborough.

Meetings with public officials at the municipal level also included the City of Burlington, the Region of Hamilton-Wentworth, the Region of Waterloo and the Region of Niagara, as well as the Waste Management Committee for the Association of Municipalities of Ontario. Presentations were also made to a wide variety of interest groups including the Conservation Council of Ontario, Ontario Multi Material Recycling Inc., Ortech International, the Ontario Federation of Labour and It's Not Garbage, a coalition of community, labour, business and environmental groups.

At the federal level presentations were made to the Departments of Environment as well as Energy Mines and Resources. Presentations were made to various key groups in the private sector including the Ontario Waste Management Association, Waste Management Inc., Dow Chemical, Price Daxion, Unilever Inc., General Motors of Canada, the Canadian Manufacturers Association and the Grocery Products Manufacturers of Canada. Generally, all of these groups were appreciative of the opportunity to participate in the public consultation program and emphasized their desire to receive feedback from the Ministry on the action arising from the public comments received. More than one hundred letters were received by the Ministry from a variety of sources including some of those mentioned above (see Appendix B).

3.0 SUMMARY OF PUBLIC COMMENTS

Several hundred public comments were received by the Ministry regarding Ontario's waste management system, both in terms of today's concerns as well as ideas for the future. The tone and frequency of each specific public comment expressed by a wide variety of individuals was highly variable. In an effort to distil the public comments into helpful guidance to the Ministry on the future priorities for municipal solid waste management, sources of each comment are identified where possible along with an indication of the frequency where similar comments were received.

3.1 Public Comment Source - Stakeholder Groups

Concerns and ideas were made known to the Ministry throughout the public consultation program by direct dialogue with Waste Management Branch staff or by letter. Public comments are attributed where possible to one or more of six different sources. For example, public sector comments are separated into four categories; citizens, interest groups, municipal and federal. Private sector comments are separated into the remaining two categories;

industrial/commercial waste generators and the waste management industry.

3.1.1 Public Sector

Citizens - concerns and ideas attributable to individuals who wrote letters and/or spoke directly with Waste Management Branch staff and did not make known any particular group or employer affiliation.

Interest Groups - concerns and ideas attributable to individuals representing a variety of interest groups who wrote letters and/or spoke directly with Waste Management Branch staff.

Municipal - concerns and ideas attributable to individuals employed at the municipal level (ie. elected officials and bureaucrats) and/or members of municipal associations or individuals active in the waste management master planning process who wrote letters and/or spoke directly with Waste Management Branch staff.

Federal - concerns and ideas attributable to individuals employed at the federal level (ie. bureaucrats with either the Departments of the Environment or Energy, Mines and Resources) who wrote letters and/or spoke directly with Waste Management Branch staff.

3.1.2 Private Sector

Industrial/Commercial Waste Generators - concerns and ideas attributable to individuals representing a company or association whose members companies generate municipal solid waste and who wrote letters or spoke directly with Waste Management Branch staff.

Waste Management Industry - concerns and ideas attributable to individuals representing a company or association whose member companies manage (ie. collect, transport, transfer, recycle or dispose) municipal solid waste and who wrote letters and/or spoke directly with Waste Management Branch staff.

3.2 Public Comment Type - Highlighted or General

For data summary purposes, public comment types have been classified under two broad headings, highlighted or general. Highlighted Public Comments are a compilation of those comments expressed most frequently by all sectors of the public (see Appendix A, Executive Summary) and which appeared to capture the most broadly based public interest. To make this summary complete, General Public Comments are

also summarized in order that all of the concerns and ideas are documented from the public consultation program as potentially useful advice in setting future waste management program priorities.

3.2.1 Highlighted Public Comments

Highlighted Public Comments are derived from the entire public consultation program and are extracted from the consultant's summary report (Appendix A).

3.2.1.1 Municipal Solid Waste Management - General

- Frustration with the lack of programs in achieving a sustainable waste management system was a constant theme throughout the consultation process.

3.2.1.2 Waste Management Planning and Approvals

- Overall, participants found the EA process to be time-consuming, frustrating, and generally unwieldy. Many called for legislative changes, particularly municipal participants.
- Participants suggested that municipalities needed the statutory authority to collect revenues intended to facilitate waste management; to do hydrogeological studies on leaking dumps on private land and to gain access to private land to ascertain suitable sites for landfill facilities; to fine or ban polluters; and to conduct recycling activities.

3.2.1.3 3Rs of Waste Management

- Many participants suggested that the underlying assumptions in the discussion paper favoured disposal of waste in landfill over the 3Rs, and recycling over reduction or re-use. Participants tended to strongly favour an increased emphasis on reduction and re-use.
- Generally, participants who expressed opinions tended to agree that Ontario should move to take the initiative on packaging.
- Many participants suggested that the soft-drink industry benefits from disposal and is not paying enough for the wastes it generates. The soft-drink industry was viewed as a beneficiary that was not paying its share of disposing of its accumulating wastes.
- Participants considered the Blue Box program to be generally beneficial and positive. Negative aspects were

not generally considered to be critical problems, but rather normal obstacles to the growth of a curbside recycling system. However, access to secondary material markets is a concern to northern and remote municipalities.

- Participants who voiced an opinion overwhelmingly supported both central and home composting.
- The Ministry of Environment was generally considered to be too timid in the management of discarded tires. A credibility problem was alleged as a result of the lack of Provincial action to control discarded tires despite the funds collected from the tire tax. The illegal dumping of tires was also highlighted as a problem for municipalities.

3.2.1.4 Financial Sustainability

- The concept of beneficiary pay was regarded with some confusion and scepticism. Taken as a whole, public response favoured full cost accounting to aid a financially sustainable waste management system.
- Participants typically suggested it would be unreasonable to charge householders per bag of garbage and suggested that such a policy would lead to illegal dumping.

3.2.1.5 Treatment/Disposal

- Many participants asked MOE to articulate current and future policy regarding EFW in Ontario. Participants were strongly for and also strongly against implementing energy from waste programs. No clear consensus emerged on this issue.

3.2.1.6 Other

- Provincial programs to control hazardous waste were generally viewed as inadequate. Participants commented that they would like to see more emphasis placed on controlling hazardous and toxic waste. Hazardous and liquid industrial wastes however, were beyond the scope of the public consultation program.

3.2.2 General Public Comments

- General Public Comments are presented in a series of tables that capture as completely as possible, a summary of all the concerns and ideas expressed throughout the duration of the public consultation program. An index of codes appear at the foot of each successive page as a

common means of presenting the various qualifying remarks for each comment. Different alpha codes are employed to indicate the source(s) of each comment (ie. stakeholder groups expressing their concerns) and the frequency of each comment (ie. concerns expressed - occasional or repeatedly). The index of codes appears as follows:

STAKEHOLDER GROUPS EXPRESSING THEIR CONCERNS	
A = Citizens	D = Federal
B = Interest Groups	E = Ind/Com Generators
C = Municipal	F = Waste Management Industry
CONCERNS EXPRESSED	
O=Occasional (once or twice)	R = Repeatedly (three or more)

GENERAL PUBLIC COMMENTS

3.2.2.1 MUNICIPAL SOLID WASTE MANAGEMENT
GENERAL
Generic Concerns

- . Provincial environmental strategy needed that incorporates municipal solid waste management as one component
- . Ministry should develop waste management policy in concert with MISA and CAP programs
- . Ministry needs to resolve conflicting roles of protector, advisor and funder
- . Minister should issue statement of commitment to the principles outlined in the discussion paper
- . Scope of the public consultation exercise included MSW only and excluded hazardous and liquid industrial waste

EducationTarget Groups:

- students at all levels
- consumers
- industrial/commercial waste generators
- product manufacturers
- packaging industry

How to Accomplish:

- co-operation (Federal, Provincial, Municipal, Industrial)
- cultural outreach to all of society
- advice offered in languages besides English and French
- product label system to identify environmental effects
- tax incentives for internal education within industry
- prepare documentary on myths and facts

Suggested Subject Areas:

- reduction/reuse opportunities
- disposables
- keys to achieving diversion targets for all generators
- products not to purchase

PUBLIC SECTOR				PRIVATE SECTOR	
A	B	C	D	E	F
		O			
		O			
		O			
		O			
	O	R			
		R	O	R	
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GENERAL PUBLIC COMMENTS

Education

Suggested Subject Areas: (continued)

- changes in societal attitudes
- international experience/lifestyle/behaviour outside Canada
- composting
- purchasing options
- choices associated with 3Rs, treatment and disposal
- technologies (wet/dry material recovery, landfill, EFW, etc.)
- household hazardous wastes (alternatives and management)
- avoid the purchase of non-repairables

PUBLIC SECTOR				PRIVATE SECTOR	
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GENERAL PUBLIC COMMENTS

3.2.2.2 WASTE MANAGEMENT PLANNING
AND APPROVALSPublic Expectations

- . means to achieve balance among competing interests
- . means to achieving diversion targets
- . means to provide framework for options choice
- . means to design the system within geographical units
- . means to dispel public fears about treatment/disposal

Perception of Challenges

- . disappointed that Province passes planning on to municipalities
- . EA frightens proponents who wish to initiate undertakings
- . fear future legislation will undermine current waste management master plans (WMMP)
- . the WMMP process is not working
- . the Ministry should no longer support the WMMP process
- . lengthy delays in Ministry review
- . Ministry comments on EA reviews aren't helpful
- . delays associated with EA process/ approvals costly
- . changes in Ministry staff contribute to inconsistent EA reviews
- . garbage crisis is a political problem, not technical
- . MNR Class EA on timber management dismisses recycling
- . municipalities have no control over private sector collection and disposal
- . EA approval needed before lands can be expropriated
- . member municipalities battle Regions over facility siting
- . lawyers and consultants profiting by lengthy process
- . lawyers and consultants are contributing to delays

PUBLIC SECTOR				PRIVATE SECTOR	
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GENERAL PUBLIC COMMENTS

WASTE MANAGEMENT PLANNING
AND APPROVALSPerception of Challenges (cont'd)

- . public unaware of current costs, backlash inevitable

Suggestions for the Future

- . Ministry should plan beyond the year 2000
- . All government initiatives should plan towards diversion targets
- . areas in Ontario without plans must proceed and develop
- . unorganized areas need to be addressed
- . planning must improve
- . Provincial waste management authority supported
- . eliminate EA Hearing Board
- . Province take responsibility to ensure decision based on consistent reviews
- . clarify waste management authority by amending the Municipal Act appropriately
- . explore other methods of site selection
- . supports public participation
- . make all legislation compatible (EA, EPA Planning Act, Municipal Act)
- . amend legislation to create level playing field for the private and public sector proponents
- . municipalities should share the responsibility of waste management with the private sector
- . Ministry's approval system needs an effective and efficient framework
- . Ministry staff attitudes don't support the principle of "timely facility development"
- . environmental interest groups should participate
- . counties should administer waste management program
- . export of Toronto's garbage to the north not supported
- . host community concept unacceptable

PUBLIC SECTOR				PRIVATE SECTOR	
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GENERAL PUBLIC COMMENTS

WASTE MANAGEMENT PLANNING
AND APPROVALSSuggestions for the Future (cont'd)

- . host community concept favoured
- . support public participation and decision making
- . Regional Boards supported - representation from province, municipalities, industrial generators and the public
- . want to be consulted in streamlining EA process/approvals
- . Ministry needs more EA and Approvals Branch staff
- . Ministry needs guidelines for Approvals staff to ensure consistent external advice
- . Streamlining EA efforts greatest potential for cost savings
- . guidelines needed for waste management master planning
- . guidelines needed for facility site selection
- . guidelines needed for municipalities to deal with consultants
- . master planning checklist needed to assess ongoing progress
- . future legislative approach to planning not supported

PUBLIC SECTOR				PRIVATE SECTOR	
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GENERAL PUBLIC COMMENTS

3.2.2.3 3RS OF WASTE MANAGEMENT

Product Manufacturers

- . Environmental Choice Program -
 - only program endorsing products
 - poorly publicized
- . eliminate misleading advertising (environmental friendly)
- . develop labels to identify environmental effects
- . manufacturers should take cradle to grave responsibility
- . manufacturers should contribute directly to facility development
- . manufacturers should develop reusable products
- . build recyclability into products
- . incentives for reusable products
- . incentives for use of secondary material
- . incentives for waste audits
- . incentives for companies to educate staff
- . incentives for companies to develop less wasteful products
- . force manufacturers to use secondary materials
- . ban hazardous products that have environmentally friendly substitutes
- . eliminate subsidies for virgin materials
- . phone books should be redesigned to be easily recyclable
- . tax new oil
- . tax products that are toxic
- . tax products to carry disposal costs
- . tire companies should be responsible for waste tires
- . paint companies should be responsible for waste paint
- . glossy paper should be the paper manufacturers' problem
- . R & D needed
- . caution on blanket bans of disposables
- . Province should promote repairability
- . establish product development criteria (all costs, repairability, durability, life expectancy)

PUBLIC SECTOR				PRIVATE SECTOR	
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GENERAL PUBLIC COMMENTS

3RS OF WASTE MANAGEMENT

Generic Recycling (cont'd)

- . labour intensive and costly
- . need more recycling facilities
- . costs should be shared among all generators
- . responsibility rests with the waste generator
- . incentives for use of secondary materials
- . CARI should be empowered to expand their role

Blue Box Recycling

- . expand aggressively by 1992 to rural areas, apartments and other communities
- . expand to include other materials including junk mail
- . mandatory source separation needed
- . OMMRI is self serving, no long term relief for municipalities
- . OMMRI and Ministry must involve municipalities in formulating future agreements
- . OMMRI allows industries to buy their way out
- . reduce contamination through careful collection/sorting

Composting

- . promote more aggressively (central and backyard)
- . central composting guideline needed asap
- . promote sludge composting where appropriate
- . backyard composter marketing
- . regulate central composting
- . want to be consulted on compost guidelines

PUBLIC SECTOR				PRIVATE SECTOR	
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GENERAL PUBLIC COMMENTS

3RS OF WASTE MANAGEMENT

3Rs Generally

- . diversion targets are too ambitious
- . diversion targets are not ambitious enough
- . diversion targets should be broken down into a separate strategy for each of the 3Rs
- . economic incentives needed
- . caution on regulations to achieve diversion targets
- . diversion rates greater than 55-60% is not possible
- . resurrect the fourth R
- . R&D coordination needed
- . waste composition studies needed in all municipalities
- . Ministry resource allocation should reflect the hierarchy
- . financial assistance should be greater for the north
- . exploit 3Rs at apartments, restaurants, hotels, arenas
- . create a centre for 3Rs R&D
- . 3Rs progress undermined by creating excess landfill capacity
- . designate one agency for information management/dissemination
- . Federal government has a role to provide incentives
- . mandatory waste audits needed
- . incentives for waste audits needed
- . support development of codes of practice

PUBLIC SECTOR				PRIVATE SECTOR	
A	B	C	D	E	F
			R		
		O	O		
				O	
				O	
				O	
			O		
			O		
			O		
			R		
			R		
			R		
		O			
		O	O		
			O		
			O		
			R		
				O	
				O	

STAKEHOLDER GROUPS EXPRESSING THEIR CONCERNS

A = Citizens

B = Interest Groups

C = Municipal

CONCERNS EXPRESSED

O = Occasional (once or twice)

D = Federal

E = Ind/Com Generators

F = Waste Management Industry

R = Repeatedly (three or more)

GENERAL PUBLIC COMMENTS

3.2.2.4 FINANCIAL SUSTAINABILITY

Perceptions of Challenges

- . who pays how much towards full cost?
(ICI/Residential generators and Product/
Packaging manufacturers)
- . no generic model for full cost accounting
- . absence of economic incentives for waste
reduction
- . residential rate payer bears the burden
currently
- . convince tax payer they won't be paying
twice
- . government financial institutions
contribute to the problem
- . full cost recovery schemes will result
in road side dumping
- . public distrust arising from the tire
tax
- . impacts of diversion targets on the
economy are unknown
- . role of private sector not developed
- . role of small businesses not developed
- . financial assurance from the government
needed for facility closure,
monitoring and mitigation
- . waste management costs should be
borne by the waste generators

Suggestions for the Future

- . implement full cost accounting/recovery
- . develop generic model for full cost
accounting
- . consult with private and public sectors
- . comprehensive long term planning is a
precursor to full cost accounting and
recovery schemes
- . public reporting is an essential
component
- . ICI waste generators and Product/
Packaging manufacturers should
contribute to facility development
- . apply tire tax towards waste tire
management solution

PUBLIC SECTOR				PRIVATE SECTOR	
A	B	C	D	E	F
	R	R	O		
		R	O		
		R	O		
		R			
		R	O		
		O	O		
R	R	R	O		
R	R	R	O		
		O	O		
		R	O		
		R	O		
				O	
				O	
	O	R	O		
		R	O		
		R	O		
		R	O		
		R	O		
		R	O		

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GENERAL PUBLIC COMMENTS

FINANCIAL SUITABILITY

Suggestions for the Future (cont'd)

- . product manufacturers should pay true costs including environmental and packaging costs
- . apply lottery revenue to develop recycling facilities
- . all elements of the waste management system should be publicly owned and operated
- . consult private sector when developing full cost accounting methodology
- . Federal funds are not necessary for provincial, municipal or commercial initiatives
- . full cost accounting/recovery eliminates the need for subsidies
- . remove price incentives for virgin materials
- . more financial support for central composting
- . municipalities continue to ensure authority and contract out components of MSW management
- . behavioural psychologists could contribute insights into optimum cost recovery schemes
- . price incentives for virgin materials should be removed
- . legislative action needed against illegal dumping
- . remove all government subsidies

Tipping Fees

- . local disparities with public and private landfills
- . private landfill owners should pay a royalty to the municipality
- . tipping fees can drive away industry
- . taxpayers pay for private landfill profits
- . standardize requirement for all facilities
- . oppose establishment because of roadside dumping

PUBLIC SECTOR				PRIVATE SECTOR	
A	B	C	D	E	F
		R	O		
		O	O		
		O	O		
					O
					O
					O
					O
				O	
			O		
		O			
					O
		R			
		O			
		R			
		O			
		R			
		R			

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GENERAL PUBLIC COMMENTS

FINANCIAL SUITABILITY

Tipping Fees (cont'd)

- . establish minimum community size for tipping fee requirement
- . current landfill costs in most municipalities are artificially low
- . establish on the basis of waste composition
- . tipping fees often inflated to cover residential generators waste contribution
- . municipal and private haulers should be charged the same tipping fee

Direct Pricing Schemes

- . favour pay per bag schemes
- . oppose pay per bag schemes
- . tax credits for use of blue boxes/ composters
- . favours scheme that uses garbage cans instead of bags
- . favours scheme only where recycling is available
- . tax incentives for reduction and recycling
- . pay per bag would need to be by weight, not volume

PUBLIC SECTOR				PRIVATE SECTOR	
A	B	C	D	E	F
		O R O	O		O O
R R		R R O O O O O			

STAKEHOLDER GROUPS EXPRESSING THEIR CONCERNS

A = Citizens

D = Federal

B = Interest Groups

E = Ind/Com Generators

C = Municipal

F = Waste Management Industry

CONCERNS EXPRESSED

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R = Repeatedly (three or more)

GENERAL PUBLIC COMMENTS

3.2.2.5 TREATMENT/DISPOSAL

Perceptions of Challenges

- . facilities should all be state of the art
- . MISA and CAP programs will result in more MSW
- . Ontario government position on EFW not clear
- . Ministry position on EFW not clear
- . current regulations pertaining to EFW are unreasonable
- . municipalities reluctant to make facility change applications until Reg. 309 is amended
- . delivery timing and substance of Reg 309 amendments are unknown
- . scales required at many landfills
- . private landfills accept waste outside of the master plan boundary areas
- . responsibility of landfill impacts after 25 years past closure undefined
- . past performance factor in C of A application not established
- . absence of policy on MSW transportation

Suggestions for the Future

- . larger centralized facilities better than large number of small facilities
- . facilities should be owned/operated by the private sector
- . eliminate privately owned facilities
- . support concept of front-end diversion requirements
- . Ontario government should fund and build material recovery facilities
- . Reg 309 needs updating municipally and industrially
- . EPA amendments should not prohibit building on/near old landfill sites after 25 years
- . Ministry should fund methane recovery process at landfills
- . post-closure period should be based on monitoring results
- . oppose incineration

PUBLIC SECTOR				PRIVATE SECTOR	
A	B	C	D	E	F
O		O R R O O O O O	O O R		
					O O
O		R O O O	O		
	R				

STAKEHOLDER GROUPS EXPRESSING THEIR CONCERNS

A = Citizens
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3.2.3 Media Reporting

Newspaper coverage of the July 9, 1990 discussion paper release was widespread in Ontario (see Appendix C). Generally, the print media emphasized full cost recovery in their reporting of the Ministry's effort to consult with the public. More specifically, direct pricing schemes such as residential charge-per-bag cost recovery options were emphasized. The narrow emphasis of this newspaper coverage resulted in some public backlash in the form of Ministry correspondence from householders who considered that they were being unfairly victimized when compared with product manufacturers, the packaging industry and industrial/commercial/institutional waste generators.

Extensive radio and/or television interview coverage was also provided at the public forum events at Windsor, Sudbury, North Bay, Thunder Bay and Scarborough. This media coverage was generally more balanced and reflected a fair assessment of the goal and scope of the public consultation program.

4.0 CONCLUSIONS

The goal of the public consultation program was to hear the public's ideas and concerns about the current waste management system in order that a consensus could be reached for improvements during the decade ahead. Ontario's goal and the underlying principles of a sustainable waste management system were not challenged by any of the program participants.

In varying degrees, consensus emerged in a variety of broadly-based areas as the product of collective public advice to both the Province of Ontario and the Ontario Ministry of Environment.

- A Provincial environmental strategy is needed that incorporates municipal solid waste as one component of a comprehensive plan.
- An aggressive waste management education program is needed that targets a wide range of audiences and focuses primarily on effective ways to divert waste from disposal.
- The environmental assessment and Ministry approvals process must be streamlined to enable the development of waste management facilities to keep pace with the need.
- A provincial waste abatement strategy is needed that outlines precisely how Ontario will achieve the waste diversion targets.

- A new emphasis is needed on waste diversion from disposal through accelerated waste reduction and reuse initiatives, particularly applied towards product manufacturers, the packaging industry and the industrial/commercial/institutional waste generators.
- The full cost of waste management should be accounted for by municipalities as a matter of routine and reported to the public.
- Tire tax revenues should be applied exclusively towards a waste tire management solution.
- Comprehensive waste management planning should be undertaken in all areas of Ontario.
- Waste management authority should be clarified by amending the Municipal Act and giving municipalities explicit powers currently assumed by the province, particularly in the area of 3Rs.
- Regulation 309 Municipal should be amended to clarify landfill site operating criteria and upgrade sites where necessary, to comply with new standards.
- The Ontario Government and Ministry of Environment positions are needed on energy from waste.

APPENDIX A

A Report on Public
Consultation

undertaken for the
Ministry of the Environment
on its discussion paper

Towards a Sustainable
Waste Management System

Perley and Hurley Ltd.

**A REPORT ON PUBLIC CONSULTATION
UNDERTAKEN FOR THE MINISTRY OF THE ENVIRONMENT
ON ITS DISCUSSION PAPER:
TOWARDS A SUSTAINABLE WASTE MANAGEMENT SYSTEM**

**Perley & Hurley Ltd.
November 30, 1990**

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EXECUTIVE SUMMARY

Participants indicated that they appreciated MOE seeking their views on waste management and that the consultation process was a worthwhile exercise if comments made by participants were considered by MOE in setting future policy on waste management. They expressed diverse views on many waste management and environmental issues. The following highlights represent comments received from all sectors of the public.

- Overall, participants found the EA process to be time-consuming, frustrating, and generally unwieldy. Many called for legislative changes, particularly municipal participants.
- Provincial programs to control hazardous waste were generally viewed as inadequate. Participants commented that they would like to see more emphasis placed on controlling hazardous and toxic waste.
- Participants suggested that municipalities needed the statutory authority to collect revenues intended to facilitate waste management; to do hydrogeological studies on leaking dumps on private land and to gain access to private land to ascertain suitable sites for landfill facilities; to fine or ban polluters; and to conduct recycling activities.
- Participants considered the Blue Box program to be generally beneficial and positive. Negative aspects were not generally considered to be critical problems, but rather normal obstacles to the growth of a curbside recycling system.
- Many participants asked MOE to articulate current and future policy regarding EFW in Ontario. Participants were strongly for and also strongly against implementing EFW programs. No clear consensus emerged on this issue.
- Participants who voiced an opinion overwhelmingly supported both central and home composting.
- Many participants suggested that the underlying assumptions in the discussion paper favoured disposal of waste in landfill over the 3Rs, and recycling over reduction or re-use. Participants tended to strongly favour an increased emphasis on reduction and re-use.
- Generally, participants who expressed opinions tended to agree that Ontario should move to take the initiative on packaging.

(ii)

- Many participants suggested that the soft-drink industry benefits from disposal and is not paying for the wastes it generates. The soft-drink industry was viewed as a beneficiary that was not paying its share of disposing of its accumulating wastes.
- MOE was generally considered to be too timid in the management of discarded tires. A credibility problem was alleged as a result of the lack of Provincial action to control discarded tires despite the funds collected from the tire tax. The illegal dumping of tires was also highlighted as a problem for municipalities.
- Participants typically suggested it would be unreasonable to charge householders per bag of garbage and suggested that such a policy would lead to illegal dumping.
- The concept of beneficiary pay was regarded with some confusion and skepticism. Taken as a whole, public response favoured full cost accounting to aid a financially sustainable waste management system.
- Frustration with the lack of progress in achieving a sustainable waste management system was a constant theme throughout the consultation process.

I. INTRODUCTION

The purpose of this report is to present the results obtained from the public consultation process undertaken for the Towards a Sustainable Waste Management System (TSWMS) discussion paper. It should be noted that this report was intentionally prepared in a format which would be easily accessible to members of the general public unfamiliar with waste management issues.

The TSWMS discussion paper provided an overview of current MOE programs in the waste management area, and discussed how the MOE can promote sustainable waste management practices in Ontario in the future. As described in the discussion paper (TSWMS, 9), a sustainable waste management system would entail four primary goals:

- o **REDUCED RELIANCE ON DISPOSAL**

Through an increased emphasis on the 3Rs (reduction, re-use and recycling) waste quantities would decline significantly. The 3Rs can reduce the need to dispose of waste material in landfill.

- o **ENVIRONMENTALLY SECURE WASTE MANAGEMENT FACILITIES**

Waste management facilities in Ontario must meet strict environmental standards to ensure the protection of human health and the environment.

- o **TIMELY FACILITY DEVELOPMENT**

Forecasting, planning and streamlining of the approvals process will speed the delivery of necessary waste management facilities. Innovative ideas are encouraged in order to stimulate applicable technologies.

- o **FINANCIAL SUSTAINABILITY**

The full cost of waste management must be accounted for and recognized when recovering costs from waste producers. Current pricing practices which encourage the production of waste must be reduced or eliminated.

Major new directions considered in the TSWMS discussion paper to further these goals included: increased efforts to promote the 3Rs, full-cost-accounting to ensure that the full costs of waste management are recovered from the beneficiaries of waste disposal, and tougher landfill standards.

The principles endorsed by the discussion paper to further the above primary goals in the decade ahead (TSWMS, 22-33) included:

- **PLANNING**

Comprehensive long-term planning throughout Ontario would allow all parties to participate in the resolution of their waste management challenges.

- **FINANCIAL SUSTAINABILITY**

Elimination of imbalances in the current system of financing waste management activities. Waste generators and beneficiaries of waste management would pay the full cost of the management of wastes.

- **THE 3RS OF WASTE MANAGEMENT**

Waste diversion targets would be pursued through additional 3Rs initiatives.

- **TREATMENT AND DISPOSAL**

Consistent, technically defensible standards would be utilized to ensure that existing and new facilities are maintained at a high level of environmental performance.

The TSWMS discussion paper stated that the MOE is committed to a "policy of public consultation on important environmental matters that affect Ontario residents" (TSWMS, 38). The Ontario Government has solicited comments and supported a broad-based dialogue with the public, industry, and all levels of government on the waste management issues raised in the discussion paper.

II. METHODOLOGY

The public consultation undertaken by MOE used as a basis for discussion the TSWMS discussion paper, prepared "as a framework for the ongoing dialogue involving concerned citizens, business, public interest groups and all levels of government about the future of waste management in Ontario" (TSWMS, 3). The public consultation process was designed A) to further the Ontario Government's principle of public consultation on environmental issues of concern to Ontario residents, B) to foster an understanding of the challenging waste management issues facing Ontario today, and C) to move towards a consensus on the principles necessary to address those issues.

The following steps were taken in the public consultation process for the TSWMS discussion paper:

- A press release calling for comments from the public on the ideas in the paper was circulated by the MOE after the release of the discussion paper on July 9, 1990. Interested groups were invited to contact the Ministry and to organize meetings on their own initiative. Ministry staff, upon invitation from these groups, attended meetings, made presentations and answered questions.
- To further publicize the release of the discussion paper, a mailing list of interest groups, municipalities, commercial and industrial associations and other governments was compiled. Copies of the discussion paper were circulated to more than 1,500 interested parties.
- Ministry staff from the regions and districts, Environmental Assessment, Approvals and Waste Management Branches of the MOE were briefed during a series of presentations by MOE's Waste Management Branch staff. Ministry staff were informed of the content of the discussion paper and public consultation process.
- A video tape and 35mm slides were prepared to present the ideas in the discussion paper to meetings with interested groups.
- A French version of the discussion paper was made available to the public. Bilingual MOE staff were designated as contacts for bilingual residents of Ontario.

- MOE staff began making presentations to interested groups September 4, 1990.
- An environmental consulting firm, Perley & Hurley Ltd., was retained to document all forms of public response, and to prepare a report summarizing public response to the discussion paper at the conclusion of the public consultation period.

Oral responses at meetings were received from individuals affiliated with interest groups, service clubs and associations, municipal government and industry, as well as from private citizens with no designated affiliation. Membership in a sectoral group was assumed if comments were recorded at a meeting held with a particular group (eg. comments recorded at meetings with municipal groups or environmental interest groups were attributed to members of those groups) unless individuals volunteered that they were in fact members of a different sectoral group.

It should be noted that although the discussion paper raised broad philosophical and conceptual ideas for consideration, comments typically were directed to specific problems perceived and solutions to those problems. This limitation must be taken into account when drawing conclusions from the data received.

It should also be noted that the presentations made to each group varied in content, format and length. For example, at a meeting in Ottawa an atypical presentation was made in which the headings 3Rs, Financial Sustainability, Planning, and Treatment and Disposal were each followed by a question period. The size of the group in this case allowed for a less formal exchange of ideas and the audience demonstrated a comparatively high level of interest. For all external presentations however, a common set of 35 mm slides were shown to ensure the delivery of consistent information about municipal solid waste management in Ontario.

III.**PUBLIC RESPONSE BY SECTOR**

Concerns were expressed either in meetings with MOE staff or in writing. Five principal sectors responded to MOE's call for comments on the TSWMS discussion paper during the public consultation period. These sectors included:

1.0 MUNICIPALITIES

- 1.1 Elected Officials and the Municipal Public Service.

2.0 PRIVATE SECTOR

- 2.1 Waste Management Industry
- 2.2 Industrial/Commercial/Institutional Waste Generators

3.0 GENERAL PUBLIC

- 3.1 Interest Groups
- 3.2 Residential Waste Generators (private citizens)

4.0 FEDERAL GOVERNMENT

- 4.1 Elected Officials and the Federal Public Service

5.0 PROVINCIAL GOVERNMENT

- 5.1 Elected Officials and the Provincial Public Service

1.0**MUNICIPALITIES****1.1 Elected Officials and the Municipal Public Service**

The concerns raised by municipal groups were numerous and also highly variable. However, several themes were of great concern to municipalities. They tended to concentrate heavily on perceived problems raised by the environmental assessment of landfill sites. Legislative changes to streamline EA procedures were felt to be necessary. Statutory authority over waste within municipal jurisdictions and statutory authority to conduct recycling programs were advocated. Energy From Waste (EFW) was advocated by many northern municipalities as an essential component of a comprehensive sustainable waste system. Packaging was considered a primary source of waste that was outside the jurisdiction of municipalities. Urgent Provincial and Federal action on this front was felt to be essential.

Many municipal participants felt that the MOE and the Province were inadequately fulfilling financial, regulatory and administrative responsibilities. Municipal participants complained of a lack of effective Provincial leadership and initiative on contentious waste management issues. Some also criticized the Province for contradictory messages from different ministries and from within MOE. MOE's Approvals Branch was criticized for a perceived lack of clarity of direction on EA issues.

Tipping fees at landfills were a source of concern to many. Several asked whether standardized tipping fees were planned, and pointed to problems with a public and private tipping fee structure in place. Opinion was divided as to the best approach to tipping fees. All who commented on this issue stated that they were a necessity, although many thought that at present the fee levels were too low.

The Blue Box was commended, but participants complained that municipal costs were not fully supported by the Province or Ontario Multi-Material Recycling Inc. (OMMRI) and that costs had been shifted to municipalities from the Province. OMMRI was regarded as a vehicle which shifted costs from beverage manufacturers to municipalities. Refillable containers for soft-drinks were advocated by many and concern was voiced that MOE was not advocating reduction and re-use adequately in this context.

The illegal dumping of hazardous wastes and tires was a of considerable concern to municipalities. They were generally quite frustrated with the progress made to date on these issues and advocated returning these waste materials to manufacturers. Some participants advocated regulating the production of products containing hazardous or toxic materials. Composting was supported by many as an ideal method to cut down on the volume

and costs of landfill operations.

Overall, municipal participants were critical of MOE's record in the past. They were supportive of the principles and goal of a sustainable waste management system, but were frustrated by the rate of progress towards these ends and desired quick action in the future on some of the problems described above.

2.0**PRIVATE SECTOR****2.1 Waste Management Industry**

Only one submission was received from the waste management industry. However, it enthusiastically supported the concept of sustainable waste management based on full cost recovery, and the use of market forces to support the 3Rs. Reduction of the current reliance on disposal, and financial and technical assistance from the Province to the waste management industry, were advocated. It was suggested that financial assistance could come from taxes on the use of raw materials or disposal. Additional suggestions included increased educational efforts to influence public attitudes in favour of conservation rather than consumption, and improved mechanisms to disseminate vital information on waste management to those sectors most in need of it. An inter-disciplinary research institution was advocated as a necessary instrument in the development and articulation of new innovations needed for government action on the environment. Generally, market forces were seen as possessing the potential to be a vital force in protecting the environment.

2.2 Industrial/Commercial/Institutional Waste Generators

Industrial, commercial and institutional waste generators found the principles of a sustainable waste management system as articulated in the TSWMS discussion paper to be progressive and positive. Comments from this sector were not numerous, and a possible explanation can be found in one participant's opinion that comments at this time were premature in the absence of firm Provincial proposals concerning the specific measures to be employed to set up a sustainable waste management system.

This sector suggested that far-reaching attitudinal changes were required to produce real reductions in waste. Education was advocated to that end and this was regarded as the responsibility of government with the input of the private sector. The 3Rs and composting were consistently supported as preferable to disposal. One participant noted that the cradle-to-grave responsibility that some manufacturers had already adopted satisfied many of the commitments required by a sustainable waste management system. This approach considers the entire "life-cycle" of a product, and some participants stressed that this approach was of fundamental importance and that the waste stream contains valuable resources. The Blue Box was praised as an important first step, and questions were asked about how well the program was accommodating waste materials picked up.

The need for waste reduction at source, for the separation of waste at its source, and for a reduction in packaging was noted. The regulatory problem posed by the packaging used in imported goods was also pointed out. Uniform national measures were advocated, as well as the definition of "over-packaged" goods. Regulations designed to enforce deposit systems on beverage containers and to produce reduction and diversion of waste were not supported, and caution was recommended in these areas. Those who voiced an opinion supported EFW as a legitimate part of Ontario's total waste management plan. Overall, this sector's participation rate was sparse. Comments from this sector generally indicate support the TSWMS discussion paper's goals and the principles articulated to achieve them.

3.0

GENERAL PUBLIC

3.1 Interest Groups

Two types of interest groups are discussed under this sector heading: environmental groups and service clubs.

Comments from one service club which made a presentation focused on whether the Blue Box program was adequately recycling material collected. Questions were also asked about the status of home composting programs.

Environmental groups expressed concern that Provincial efforts to date to produce a sustainable waste management system were inadequate, and supported a far more aggressive approach to effect long-lasting change. Many expressed concern that the discussion paper favoured disposal over the 3Rs and did not contain detailed policies for solid waste management. Some participants advocated the use of recent figures from 1988 as a baseline year for waste diversion targets, and felt that diversion targets for waste could be more ambitious. Overall, participants regarded the discussion paper as a good starting point for discussion and action, but felt that more aggressive and comprehensive policies needed to be considered in the pursuit of a unified Provincial environmental strategy. Such a strategy would include existing programs such as MISA and the Clean Air Program. Several participants suggested that the Province was not showing leadership in passing on planning responsibilities to municipalities. The trans-shipment of solid waste across municipal jurisdictions was rejected by several participants.

Environmental groups tended to agree with the concept of a sustainable waste management system and with full cost accounting. The Brundtland Commission Report was mentioned as a possible foundation for the concept of sustainable development. Some participants suggested that this approach could be furthered through financial incentives to manufacturers and purchasers of longer-use products, and disincentives to manufacturers and purchasers of disposable products. Increased funding for waste reduction and the creation of a "Waste Reduction Office" were suggested as important steps to demonstrate that the political will is present in Ontario to accomplish effective and long-lasting waste reduction. Mandatory source separation of recyclable materials and the storage of such materials until recycling facilities are erected were also advocated. Many participants voiced support for reduction and re-use before recycling. The Blue Box program was lauded, but increased efforts to process material recycled through the program were considered necessary. Participants who voiced an opinion rejected the inclusion of EFW facilities in Ontario as a part of

a sustainable waste system. EFW was generally regarded as a last resort after the 3Rs had been fully employed.

In general, the discussion paper was criticized for not promoting new or truly innovative programs. Participants tended to feel that the Province could and should act more aggressively to reduce waste and implement programs to further the 3Rs. For a representation of specific comments please see Section IV.

3.2 Residential Waste Generators (Private Citizens)

Residential waste generators (private citizens) raised many concerns and commented on varied aspects of waste management in Ontario. Comments tended to focus on problems of particular interest to private citizens, and some were unrelated to the broad themes raised for discussion by the TSWMS discussion paper. However, many comments pertained to aspects of sustainable waste management as covered in the discussion paper.

Overall, private citizens were frustrated with what they perceived as a failure by Ontario to aggressively confront and solve problems in waste management. They frequently suggested that the Province was not moving fast enough to address pressing problems in waste management. The need for a deposit on soft-drink bottles and cans and perceptions that the soft-drink industry was not paying its share of the cost for waste management were recurrent themes. Frustration with the lack of progress in controlling excess packaging was strongly expressed by many participants; it was frequently suggested that government was being too timid in confronting industrial and commercial sectors on this issue. The vast majority of residential waste generators expressed negative reactions to proposals to institute a surcharge per bag of garbage for a variety of reasons. Many expressed the opinion that Ontario could and should act quickly and decisively to control discarded tires. Skepticism was voiced that the revenue generated from the \$5 tire tax was being used to address problems in recycling tires.

Support for the Blue Box program was widespread and extremely strong. Participants in municipalities that had not implemented Blue Box service were eager for their municipal officials to begin curbside collection. Some participants expressed the hope that household hazardous waste would be collected in the future. Participants asked whether progress was being made in finding markets for recycled materials and frequently asked for information on the status of the materials already gathered. Home and central composting were supported unanimously by those expressing an opinion. Educational programs in schools and among adults to support the 3Rs, particularly reduce and re-use, were also supported by those expressing an opinion. Some suggested that the underlying assumptions of waste management policy in Ontario tended to favour disposal over the 3Rs, and that disposal should be a last alternative after the potential in the 3Rs to divert waste from disposal was exhausted.

Residential waste generators generally tended to express dissatisfaction with Provincial efforts to manage waste and suggested that strong and prompt action was necessary. For a representation of specific comments please see Section IV.

4.0**FEDERAL GOVERNMENT****4.1 Elected Officials and the Federal Public Service**

One of the most pressing concerns of the Federal Public Service was the impact that full cost accounting and beneficiary pay systems in support of a sustainable waste management system would have on taxation policy. It was stressed that in developing a sustainable waste management system, the waste management practises that are profitable should not be controlled by private industry, but should fund programs necessary to manage waste that can never be profitable. This sector also stressed the need to manage waste at the source of production and suggested that incentives to support the 3Rs were necessary (as opposed to disincentives applying to the production of products). Sporadic discussion occurred concerning the need for definition of the type of education to best support 3Rs initiatives. Reduction and re-use were advocated as key principles to sustainable waste management. Some participants questioned what sort of government framework will be needed to foster new research and design innovations in products, and what would be the roles of Federal/Provincial negotiations and the National Packaging Protocol (NAPP).

One elected official commented that it would be beneficial to include the Liquor Control Board of Ontario (LCBO) in the debate over returnable containers.

The process of public consultation undertaken by MOE was a subject of concern. Several participants raised questions concerning the role of public consultation and what Provincial action would result from the public consultation process undertaken for the TSWMS discussion paper. A few comments addressed the need to recycle newsprint and the need to be aware of behavioral changes produced through taxation. EFW was advocated as a needed element in waste management and the Not In My Back Yard (NIMBY) factor in this context was viewed as a negative element to be combatted. The possibility of legislation to change the role of municipalities was suggested to give them more authority over waste management within their jurisdiction. Please see Section IV. for a representation of specific concerns.

5.0**PROVINCIAL GOVERNMENT****5.1 Elected Officials and the Provincial Public Service**

A brief submission from elected officials and the Provincial Public Service indicated that a comprehensive review of waste disposal sites in unorganized areas would be carried out by the Ministry of Natural Resources following the completion of the public consultation process for the TSWMS discussion paper. This review would emphasize further strengthening the 3Rs in unorganized areas.

IV. PUBLIC RESPONSE BY SPECIFIC ISSUE

While responses to the discussion paper have taken many forms, they have typically focused on a number of areas of concern. The eighteen concerns listed below were constant themes which arose during meetings in random order. The order of presentation below is not meant to suggest a hierarchical ranking.

FINANCIAL SUSTAINABILITY, FULL COST ACCOUNTING AND BENEFICIARY PAY

Participants raised questions on the meanings of the terms "financial sustainability," "full cost accounting" and "beneficiary pay." Questions were raised as to the rationale behind coining phrases such as "beneficiary pay." Participants tended to assume that this phrase was merely a euphemism that avoided negative connotations for "user pay" systems. In this vein a representative concern was that "beneficiary pay looks a lot like user pay," and "I am not offended by the idea of user pay, but I am offended by the way this idea has been presented" (meeting, private citizen, 10/03/90). The concept of beneficiary pay for waste management was considered by some to be pivotal "to enact behavioral change" (meeting, Federal Government sector, 10/25/90).

The specific concept of sustainable development was not addressed at length by participants although many comments pertained to it. One participant did comment that forcing waste generators to "pay for the full cost of waste disposal is an important step towards a sustainable waste management system" (letter, private citizen, n.d.). Questions arose as to whether the use of the term "sustainable development" in the TSWMS discussion paper was "following the mold of the Brundtland Commission Report" (meeting, interest group, 10/03/90). The discussion paper was criticized for not incorporating "some of the very basic system requirements of sustainable development contained in the Brundtland Report" (letter, private citizen, 10/26/90). One participant commented that apart from sustainable development, "there is need for the similar emphasis on defining environmental sustainability" (letter, municipal sector, 10/31/90). The lack of any financial incentives to reduce waste in a system of sustainable development was mentioned as a problem in the TSWMS discussion paper, as was the possibility of environmental cost accounting being a type of "enviro-tax" (meeting, Federal Government sector, 10/25/90) which would be a disincentive to the development of new products. One participant felt that "financial disincentives should apply to disposable products" (letter, interest group, 10/31/90).

Participants were generally very supportive of full cost accounting for waste management. The accounting mechanisms necessary to accomplish cost accounting were considered and the public acknowledgement of costs was lauded as an important first step in instituting systems of beneficiary pay. It was suggested that the public "will be much more willing to do that [public accounting] if it can be shown to them what that extra money is doing or going to do" (meeting, Federal Government sector, 10/25/90). Questions were raised about whether full cost accounting would assess long-term "environmental cost as well as economic costs" (meeting, municipal sector, 10/26/90) and it was asserted that "the costing system has been effective," (meeting, Federal Government sector, 10/25/90) as opposed to "fair" in assessing all costs. However, as one comment suggested, "in the final analysis, the cost system needs to be simple, easy to administer, and fair to the end user" (letter, municipal sector, 10/31/90). Taken as a whole, public response favoured a full cost accounting to aid a financially sustainable waste management system. The concept of beneficiary pay was regarded with some confusion and skepticism.

A SURCHARGE PER BAG OF GARBAGE

Many written submissions were received on this issue and participants were overwhelmingly against instituting a surcharge per bag of garbage. Although the need to institute a fair system of charging for waste management was widely acknowledged, this solution was not viewed as an acceptable method to address waste generation. Many comments suggested that "charging taxpayers directly for garbage removal...is bordering on stupidity" (letter, private citizen, n.d.). The major reason cited was that a surcharge per bag would result in the illegal dumping and littering of garbage "in undesirable ways to avoid penalty or to benefit from the incentive" (letter, private citizen, 07/12/90). Sporadic support was given to the surcharge per bag scheme, based on the necessity to force heavy generators to pay for their waste, with one participant commenting that "I feel that there is more immediacy in a pay-per-bag scheme...it might function as a greater incentive to reduce waste" (letter, private citizen, 07/16/90). However, such support for the surcharge per bag concept was infrequent, and it was generally regarded as an unfair tax that constituted "double charging" and "no solution to the problem at all" (letter, municipal sector, 08/02/90). One participant suggested that if the charge per bag was "credited back against the tax bills" it would indicate to citizens that they are not being doubly taxed" (meeting, Federal Government sector, 10/25/90). As well, this participant felt that such an indication would change behaviour resulting in waste reduction.

The link between excess packaging and the amount of garbage going to landfill was often pointed out and suggestions were made

to reduce packaging at source. The reduction of packaging was generally regarded as the responsibility of government and not the consumer. Government was also called on to "expand the Blue Box system" (letter, private citizen, 08/05/90) to accept more products, and to "start with the industries and their packaging of consumer goods" (petition bearing 29 signatures, private citizens, 08/20/90). Government was also seen as slow to react to the problem of excess packaging or deal with the volume of packaging in a proactive and responsible way.

Participants typically suggested it would be unreasonable to charge householders per bag. Many viewed it more reasonable to charge per volume or weight of waste as opposed to per bag in order to fairly address commercial, industrial and institutional waste generators. Finally, education was suggested as a better method of reducing waste than disincentives such as a charge per bag.

TIRE RECYCLING

One participant asked "where does the \$5 per tire disposal fee go?" (letter, private citizen, 08/05/90). The amount of money collected to date by the tire tax was of interest to many. Participants were highly resistant to the idea of putting revenue from the tire tax into general funds and often pointed to the lack of any visible improvements from the increased revenue generated by the tax: "you pay an extra \$5 tax for your tires and yet we still have tire fires so we don't see a direct benefit from these extra costs" (meeting, Federal Government sector, 10/25/90). Another suggested that "the \$5 tire tax be returned to the purchaser if he takes his tires back to the seller, who then would have to deal responsibly with them" (letter, municipal sector, 10/11/90).

The tire tax was criticized as being the "wrong vehicle, what you should have is a regulation forcing tire companies to take back the product after use" (meeting, municipal sector, 09/26/90). The role of MOE in managing discarded tires was also criticized. Instead, it was advocated that manufacturers manage materials from "cradle-to-grave;" one participant stated that "it is more desirable to regulate and force tire companies to take back the product after use" (meeting, municipal sector, 09/26/90).

MOE was generally considered to be "too timid and risk-averse" (meeting, municipal sector, 09/26/90) in the management of discarded tires, and a "credibility problem" (meeting, municipal sector, 10/03/90) was alleged as a result of the lack of Provincial action to control discarded tires despite the funds collected from the tire tax. The illegal dumping of tires was also mentioned as a difficult problem facing municipalities.

Incineration was seen as a possible solution to the problem of tire recycling; one participant pointed out that "the cement operators are very happy to help with this [incinerating tires] and have a very good process to do it" (meeting, Federal Public Service, 10/25/90).

REFILLABLE CONTAINERS IN THE SOFT-DRINK INDUSTRY

Participants overwhelmingly supported refillable bottles and returnable cans and suggested that "we have to ban non-refundable bottles" (meeting, private citizen, 10/03/90). Many participants commented that the Province has abdicated its responsibility to regulate soft-drink cans and bottles and that the soft-drink industry through OMMRI has "deflected the costs of materials rather than taking on the full responsibility" (meeting, private citizen, 10/11/90). One participant commented that the economic costs to the community of non-returnable soft-drink containers "far exceeds the money that the city will ever receive from OMMRI," and complained that "if I want to buy a single serving of soft-drink in this community [in a recyclable container], how do I do it other than going into a restaurant and pouring it into a glass and sitting and drinking it?" (meeting, municipal sector, 10/03/90). Several participants suggested that "the Brewer's Retail...deposit fee on a can" (meeting, private citizen, 10/03/90) be used as a model for the soft-drink industry. It was also suggested that "the LCBO issue a deposit fee for any product they sell" (meeting, municipal sector, 10/03/90). Alternatively, central recycling depots were suggested for soft-drink bottles and cans; one participant advocated "a big Blue Box" (meeting, private citizen, 10/01/90) in central locations.

The Blue Box was sporadically criticized for allowing consumers to purchase soft-drink products and dispose of them without re-use. Participants suggested that many non-refillable containers end up as litter and not in Blue Boxes. Many participants suggested that the soft-drink industry benefits from disposal and is not paying for the wastes it generates: "clearly the beneficiary in this case is not just the consumer but also the pop and soft-drink industry [and] I did not see anywhere in there where you are going to be looking at getting those beneficiaries to pay for some portion of the vast wastes accumulating" (meeting, municipal sector, 10/26/90); and further: "MOE got the can producers to make a contribution to Blue Box, but the can producers made that contribution knowing that the costs of deposit containers would have been far more than \$45 million" (meeting, private citizen, 09/27/90). These comments exemplify the powerful public support recorded for refillable containers.

DISPARITIES IN TIPPING FEES ACROSS ONTARIO

Response among participants to tipping fee disparities was mixed. Some participants asked when tipping fees will "be standardized across the Province" (meeting, municipal sector, 09/13/90), while others suggested that "what a public landfill takes to save for the future, a private one makes in profit" (meeting, municipal sector, 09/13/90). Municipal participants also expressed concern that "we may get to the point where we can't service the industries in our municipalities and they may move to unorganized areas where their waste costs are less" (meeting, municipal sector, 09/27/90). Computer models currently in use also tend to generate "a disappointingly low tipping fee" (meeting, municipal sector, 09/13/90). Municipalities alleged that planning for tipping fees was complicated by unknown variables such as the fees at private sites. Participants pointed out that tipping fees for private landfill were not comparable to that of public landfills because municipalities "have programs in place...operating, capital, we have recycling programs that all come out of tipping fees," and that private landfills do not have "a Blue Box program to support, a composting program, [and] half a dozen decommissioned sites to maintain" (meeting, municipal sector, 10/15/90).

Participants also commented that current aspects of the Municipal Act make it difficult to finance municipal collection and disposal if waste is precluded from landfill as a result of an industry not separating waste components. Higher tipping fees were called political "hara-kiri" (meeting, municipal sector, 10/30/90) in this instance, as industries had already paid taxes under the Municipal Act for collection and disposal. Current tipping fees were generally regarded as too low. Participants expected tipping fees to rise as landfill space was used up; one participant stated that "the last ton of garbage that comes in to landfill will probably be at \$500 a ton" (meeting, municipal sector, 10/15/90).

Disparities in tipping fees were generally acknowledged by municipalities to be a major problem in waste management planning. One representative comment stated that "tipping fees should reflect the true cost of waste management and disposal services, that they should be uniform, that they cannot be hidden in municipal tax bills" (letter, municipal sector, 10/11/90). Another participant commented that "when a municipality has a \$160 tipping fee like Halton has got and the next door one has a \$75 one, stuff starts going all over the place" (meeting, municipal sector, 09/26/90). These two concepts represent themes generally accepted by the general public with respect to tipping fees.

EXCESS PACKAGING

Participants expressed frustration at what they perceived as the slow rate of Provincial action to reduce excess packaging. Many participants believed that Ontario should act to "enforce packaging regulations at manufacturing source" (letter, private citizen, 08/05/90). Provincial efforts to educate the public to enable it to choose less packaged products were regarded as an important first step by most participants, but this was not regarded as an adequate policy to address the problem of excess packaging: "it is the role of government to enforce strict regulations on packaging, and not the role of the public to avoid the purchase of over-packaged goods" (letter, private citizen, 10/28/90).

The role of the NAPP was the subject of some questions, with many participants stating that they did not understand the structure of the protocol and mechanisms for enforcement of controls on packaging. NAPP was called "ambiguous...it doesn't really say anything" (meeting, private citizen, 10/03/90), and one participant asked "How does NAPP work? What kind of authority do they have to implement changes?" and "What clout is there to NAPP?" (meeting, municipal sector, 10/03/90). A participant suggested that the effort to reduce packaging "has to be a dual responsibility," and that "there are components of it [packaging controls] that have to be driven at the provincial level" (meeting, Federal Government sector, 10/25/90). One comment at the Federal level suggested that NAPP was merely trying to "set out who has jurisdiction where" (meeting, Federal Government sector, 10/25/90).

Participants suggested that the provincial emphasis on packaging is misguided in that it only concentrates on the products at the "end of the pipe;" this proponent suggested shifting "the emphasis much higher up in the hierarchy, to the reduction and re-use side" (meeting, Federal Government sector, 10/25/90), instead of emphasizing the reduction of unneeded products before they are produced. Similarly, it was suggested that "incentives should be provided on the development or R & D phase of the energy as well as the industry development" (meeting, Federal Government sector, 10/25/90). Increased support for R & D was felt to be a necessary step to reduce the production of packaging. Forcing packaging producers to use recycled products was advocated. Concern was expressed that packaging restrictions would make Canadian products more costly to produce and less competitive internationally, particularly vis a vis the United States: "all products that are determined to be less [environmentally friendly] will not be packaged or made in Canada, they will just go across the border" (meeting, Federal Government sector, 10/25/90).

Generally, participants who expressed opinions tended to agree with the statement that "my feeling is that the Province should take the initiative on packaging, my understanding is that the Province is not cooperating" (meeting, municipal sector, 09/26/90).

PROVINCIAL LEADERSHIP IN WASTE MANAGEMENT

Many participants asserted that the Province was not showing leadership in the waste management field. One commented that "government has been slow to come to terms with the crisis of growing waste" (letter, private citizen, 07/12/90), another that "maybe Ontario should show some leadership" (meeting, municipal sector, 09/26/90). Other participants complained that the Province had passed planning responsibilities on to the municipalities: "The Province offers assistance to municipalities in terms of administrative procedures but does not put forward the substantive policy guidance which municipalities have requested" (letter, private citizen, 08/14/90). The costs of waste management were alleged to have been shifted by the Province "from re-use to recycle and from the producer of the product to the consumer and from there to municipalities" (meeting, private citizen, 09/26/90).

Several participants complained that they had received contradictory messages from different ministries in Ontario, eg. from Municipal Affairs and Treasury: "we have one ministry saying 'no reserve funds' and the other saying you should establish reserve funds" (meeting, municipal sector, 10/30/90). This lack of coordinated policy was also found coming "from different branches of MOE" (meeting, municipal sector, 09/27/90).

Many participants focused on the problems their municipalities had in landfill siting as a result of environmental assessment and attacked MOE for administrative delays in the environmental assessment process. Municipal participants generally felt frustrated by what they saw as a lack of firm guidelines for MOE policy and procedures, as one municipal participant claimed, "not only in solid waste but in water and sewer" (meeting, municipal sector, 10/30/90). Several participants felt that the Province should act to license, regulate or ban products that are hazardous to the environment or that produce toxic waste after disposal in landfills; in short, "if you can't reverse the process and make the product safe you shouldn't be allowed to make the product" (meeting, municipal sector, 10/03/90). One comment stressed that "waste management policies, if they are to be effective, must be considered in the context of a unified provincial environmental strategy" (letter, interest group, 10/31/90) which would include the Municipal and Industrial Strategy for Abatement (MISA) and the Clean Air Program (CAP).

The Blue Box was often seen as a positive step towards the recycling of solid wastes, but the Province was also criticized for the slow rate of expansion to cover apartments and rural areas. The Blue Box was also criticized for shifting the emphasis from reduction and re-use to recycling.

Several participants commented that the wide margins and wasted space in the design of the discussion paper made it a poor example of the principles articulated within it: "it's really quite funny how you can waste half the paper in a book yet claim that you want to become a 'model waste manager'" (letter, private citizen, 08/28/90).

Frustration with the lack of progress in achieving a sustainable waste management system was a constant theme throughout the consultation process, with the refrains being: "can it happen sooner?" (meeting, interest group, 09/18/90), and "we are not moving fast enough" (meeting, municipal sector, 09/26/90). Many participants agreed that "the Province must play the lead role in implementing the solid waste management strategy" (letter, interest group, 10/31/90).

RECYCLING VERSUS REDUCTION AND RE-USE

Many participants questioned whether the hierarchy of the 3Rs was being observed by MOE in light of what they regarded as the over-reliance on the recycling of products rather than reduction and re-use: "the hierarchy is set out of reduction first, re-use second, recycle third. Is MOE still promoting recycling as the target or have they diverted from recycling to re-use or reduction as the #1 focus now?" (meeting, municipal sector, 10/15/90). The Blue Box's educational value was universally recognized, but many participants expressed positions suggesting that "there is a hierarchy of the 3Rs and recycling is number three of those" (meeting, private citizen, 09/27/90). One participant pointed out that, unfortunately, the use of the Blue Box and concentration on recycling can be negative if it results in a complacent attitude: "that is wrong and I think the emphasis should be on re-use and the reduction of waste. The Province should be looking at ways of doing that" (meeting, municipal sector, 09/26/90). Another also suggested that "what has happened is that there has been a shift of the costs of waste management...from re-use to recycle" (meeting, municipal sector, 09/26/90).

Participants tended to strongly favour an increased emphasis on reduction and re-use. Representative comments included: "emphatically 'yes' to the public on your intentions on the side of source reduction as part of the programming in future, it is something we have seen as being missing, even the political will" (meeting, municipal sector, 10/29/90), and "this committee's

priority in the area of waste management is WASTE REDUCTION" (letter, municipal sector, 10/11/90).

ASSUMPTIONS IN THE DISCUSSION PAPER: DISPOSAL VERSUS THE 3RS

Assumptions underlying the discussion paper, as well as issues and concepts which it omitted or did not emphasize, preoccupied some participants. The public's judgments on the basic assumptions in the discussion paper was mixed. One participant stated that "my main intention this evening in coming was to talk about what is not in the paper and that is the goal of transportation of waste" (meeting, interest group, 10/03/90). Another participant stated that in his opinion a general theme in the discussion paper was that "there was a lot of emphasis put on landfill and we didn't focus as much on the upstream side, on the waste reduction, re-use, and recycle component of it" (meeting, Federal Government sector, 10/25/90). Another participant commented that the discussion paper "gives a message that the hierarchy of the 3R's in waste management is dealt with quickly and we move very quickly to that which is left over after we go through the hierarchy of the 3R's" (meeting, interest group, 10/03/90). This position was supported by several participants. One commented that "the discussion paper is a soft document, only designed to spur thought. The rhetoric in the document suggests that it is attempting a paradigm shift from landfill to 3Rs, however in the final analysis landfill is still emphasized over the 3Rs" (meeting, interest group, 10/26/90). This was seconded by several other participants: "We would suggest that as the program now stands the emphasis is placed not on 'managing waste' but on finding a new piece of land in which to put garbage. We disagree with this emphasis" (letter, municipal sector, 10/11/90); reduction was looked upon as "the key player in establishing a sustainable waste management system" (letter, 10/25/90).

A further assumption in the discussion paper, allegedly implicit in MOE's policies in general and explicit in the discussion paper, was the following: "the paper fails to examine municipal solid waste management as a problem of economic structure and inefficient resource use" (letter, private citizen, 08/14/90). Concern that basic societal values favouring consumption over reduction were not examined in the discussion paper was voiced several times, one participant commenting that "we must reduce our use of raw materials and that means a simpler lifestyle" (meeting, private citizen, 10/01/90). Several comments indicated that the discussion paper was "an articulate description of intent, but lacking as far as identifying the precise vehicles for reaching specific goals" (letter, private citizen, 10/10/90).

Other participants generally found the approach of the discussion paper to be interesting and innovative: "in the main, we find this document to be comprehensive and balanced and reflecting views which we support" (letter, private sector, 09/25/90), and further, "I am impressed by this report" (meeting, interest group, 09/26/90). Another participant stated that "your discussion paper is heading in the right direction and is an excellent starting point" (letter, municipal sector, 10/11/90). However, these views were in the minority. In general, participants who voiced an opinion on this issue tended to find that the underlying assumptions in the discussion paper favoured disposal of waste in landfill over the 3Rs, and recycling over reduction or re-use.

THE DUMPING OF GARBAGE ON PRIVATE PROPERTY.

This issue is closely linked with the public's reaction to the concept of charging per bag of garbage. Many participants warned that the inevitable reaction to a surcharge per bag was an increase in the illegal dumping of garbage. Representative comments include the following: if there is "a high direct pricing you will have subterfuge taking place and fly-by-nighters or people who will go and dump their garbage" (meeting, Federal Government sector, 10/25/90), and "in rural areas we have television sets and washers and dryers on my property. I had a large pile of garbage put on my property on the weekend. This is a constant problem and it will get worse" (meeting, municipal sector, 09/26/90), and also "if you are a private property owner in a rural area you are finding you have other people's litter on your property. I am concerned especially about hazardous waste products" (meeting, municipal sector, 09/26/90). These three comments exemplify the concern voiced in an overwhelming body of the comments received on this issue.

CENTRALIZED COMPOSTING AND HOME COMPOSTING

Participants generally tended to favour both centralized and home composting. In support of composting participants stated that "a composting plant of this sort is feasible and will work" (meeting, private citizen, 10/01/90), and "I have got a composter now and it has reduced my waste by close to 50%. Composting is the way to go" (meeting, private citizen, 10/01/90). Several participants asked questions about the availability of backyard composters, eg. "what municipalities are currently offering backyard composters to their residents?" (meeting, interest group, 09/04/90).

Participants also raised questions about the timing of regulations or guidelines for composting, eg: "when will central composting guidelines be coming out?" (meeting, interest group,

09/18/90), and "will the regulations for centralized composting be coming out this fall and will they be written in such a way that it will be easy for municipalities to set up a centralized composting system and make it easy to dispose of material?" (meeting, municipal sector, 09/26/90).

In general, participants who voiced an opinion overwhelmingly supported both central and home composting, one representative comment stated that "composting should be getting considerably more promotion and financial support" (letter, private citizen, 10/10/90).

ENERGY FROM WASTE (EFW) PROGRAMS AND INCINERATION

The subject of EFW proved quite contentious. Many participants were strongly for EFW and many were equally strongly opposed to it. Those supporting EFW included small municipalities and Federal Government representatives. Municipal participants, especially in Northern Ontario, argued that "MOE's regulations for compliance appear unreasonable, this year I can't burn waste any more; that cuts my landfill capacity to seven years" (meeting, municipal sector, 09/14/90), and also "the weakness in Ontario's program is the lack of a meaningful Energy From Waste program...a much liberalized approach to Energy From Waste would substantially improve Ontario's plan and that it would be especially advantageous in our scattered Northern towns where recycling is difficult" (letter, municipal sector, 08/01/90). Federal participants suggested that EFW "is a very large and viable resource, a lot of the material we have got in our landfill site could be quality EFW material. Where is MOE coming down on that whole EFW issue?" (meeting, Federal Government sector, 10/25/90). The private sector also tended to support "the recognition that energy from waste has a place in a total waste management master plan" (letter, private sector, 09/25/90).

Contrarily, some participants claimed that EFW was dangerous. Private citizens and interest groups generally felt that "EFW does not solve the problem. I think also more dangerous is that it encourages production," and "the term EFW gives rise to the feeling that we are getting something and that is tricking people" (meeting, interest group, 10/03/90). Another participant was concerned that "the implementation of further incinerators in Ontario would completely undermine all of the programs outlined and promoted within this paper" (letter, private citizen, 10/23/90). Further comments stressed "the potential risks involved in implementing EFW programs" (letter, private citizen, n.d.), and concluded that "the incinerator option should be last on the list" (letter, private citizen, 10/29/90).

Many participants asked MOE to articulate current and future policy regarding EFW in Ontario, and stated they were "confused as to what the current Ministry position is with respect to any form of incineration" (meeting, municipal sector, 10/29/90). Opinion was clearly split in this sector of the public on the benefits of implementing EFW programs.

THE BLUE BOX PROGRAM: POSITIVE AND NEGATIVE ASPECTS

The Blue Box program was generally seen as a positive and progressive program. However, many participants suggested that the program should be expanded and that increased efficiency was desirable. One participant suggested that "the Blue Box program should be expanded to rural areas and apartments by 1992" (meeting, municipal sector, 09/27/90), another asked, "what is the hold up? Five years to achieve a one-third increase?" (letter, private citizen, 10/09/90). It was also emphasized that Blue Box did not apply to industrial and commercial waste generators: "I applaud the effort of the Blue Boxes, but only 20% of our landfill comes from residential stuff, what do you plan to do with stuff coming from commercial and industrial sources?" (meeting, private citizen, 10/11/90). Residents in meetings held at two municipalities indicated that they supported Blue Box, but were frustrated with the slow progress in establishing municipal Blue Box service: "people now have their garages full of materials to be recycled and they have nothing to do with them, they are disappointed and disillusioned" (meeting, private citizen, 10/03/90).

Negative aspects mentioned were the perception that the "recycling of waste in Blue Boxes is positive, but people now feel quite comfortable throwing away a few cans and newspapers and they have done their thing for the environment and community" (meeting, municipal sector, 09/26/90), and that "the expansion of 'blue box' activities makes little sense until markets for recovered materials are expanded or stabilized" (letter, private citizen, 08/14/90). OMMRI's role in funding the Blue Box was generally looked upon as an inadequate response to its obligation to foster the re-use of soft-drink cans and bottles.

The question of what a "recyclable product" is was raised, as well as the difficulty in meeting material specifications and standards if more recycled content is included. Questions were also asked about the status of Ontario's newsprint recycling capacity. Some private citizens were concerned that the infrastructure necessary to process, ship, and sort materials recycled through Blue Box was not in place. Ontario was also criticized for lacking "an effective marketing strategy for selling the increasing volumes of recycled materials now being collected" (letter, private citizen, 10/22/90). The Federal Environmental Choice program was frequently discussed and the

lack of Provincial programs to try "to impact product through which you can impact waste management" (meeting, Federal Government sector, 10/25/90) was cited as a need to be addressed.

Overall, participants considered the Blue Box program beneficial and positive. Negative aspects were not generally considered to be critical problems but rather normal obstacles to the growth of a curbside recycling system.

PROPOSALS FOR NEW LEGISLATION

Many participants advocated new or revised legislation on taxation structures, excess packaging, controls over toxic products, and enforced recycling. Municipal participants suggested that planning was often difficult without statutory authority over waste within their jurisdiction and asked "how does it stand with the Ministry of Municipal Affairs on this statutory authority?" (meeting, municipal sector, 10/11/90). The Environmental Assessment Act was frequently attacked as being in need of legislative revision. One participant asked, "is there an acknowledgement in Ontario that the Environmental Protection Act is not adequate to deal with what you want to do in the next five to ten years?" (meeting, Federal Government sector, 10/25/90). The lack of legislative controls on the producers of products was the subject of concern: "one of the things that comes to mind is to tax products that have toxic components to them, and the other one is to tax the disposal of products" (meeting, municipal sector, 09/26/90); and "how far away are we in terms of legislation against the companies, the producers and manufacturers?" (meeting, municipal sector, 10/15/90). Participants further suggested legislation requiring that a percentage "of recycled wood pulp products go into all corrugated packaging" and "recycled plastic go into the manufacturing of all plastic containers, with the exception of food containers" (letter, private citizen, n.d.).

Several participants suggested that municipalities needed the authority to collect revenues to facilitate waste management; to do "hydrogeological studies on leaking dumps on private land" (meeting, municipal sector, 09/13/90); to gain access to private land to ascertain if a site is suitable for a landfill facility; implement fines or bans on polluters; and initiate legislation giving municipalities the statutory authority to conduct recycling activities.

HAZARDOUS WASTE MANAGEMENT

While the topic of hazardous waste was not covered at length in the TSWMS discussion paper, many participants raised this topic. They were uniformly dissatisfied with the efficacy of

controls over hazardous wastes, and suggested that "hazardous wastes are not dealt with in a reasonable manner. In our province we let a lot of people get away with a lot of things" (meeting, private citizen, 10/03/90). It was suggested that "the bottlers of pop help you to recycle; we could go back to the sellers and manufacturers of hazardous waste and do the same thing" (meeting, private citizen, 10/03/90). Similarly, "we must consider some tax or deposit on containers that will hold hazardous waste. Then we would be sure to get the containers back" (meeting, municipal sector, 09/26/90). The return of hazardous waste to manufacturers was advocated by several participants: "Burlington spent \$300,000 this year to take back old paint. It would be better to give this paint back to the manufacturer" (meeting, municipal sector, 09/26/90).

Provincial programs to control hazardous waste were generally viewed as inadequate: "I would like to see in this whole process more effort and thought assisting the community to develop hazardous waste depots...will there be financial supports for hazardous waste as well?" (meeting, private citizen, 10/03/90) asked one participant. Another commented that "there appears to be a fundamental assumption made in your presentation and that was that all garbage is collected and hazardous waste is not" (meeting, municipal sector, 09/26/90). Participants were concerned enough about hazardous waste to frequently bring up the topic of hazardous waste despite the sole emphasis on municipal solid waste in the TSWMS discussion paper.

ENVIRONMENTAL ASSESSMENT

The lengthy process related to the environmental assessment (EA) of landfill sites preoccupied many municipal participants. Many meetings with municipalities spent a great deal of time discussing this topic and issues related to it. Overall, participants complained that the Environmental Assessment Act and the MOE Approvals Branch created grave difficulties in planning and managing waste effectively in their municipalities and that the EA process was in need of substantial revision: "EA is an unworkable document, but despite being through it I can't correct it for you, you have a tiger by the tail" (meeting, municipal sector, 10/30/90). Some participants complained that EA was influenced by the NIMBY factor in undesirable ways: "the big problem [with EA] is the lack of understanding the vast majority of people have with regard to waste and the fears that have been generated that are unfortunately of great asset to newspapers to scare off people on EFW and incineration" (meeting, Federal Government sector, 09/25/90). A "level playing field" was the subject of concern to some public sector participants. They suggested that "not all EA is applicable to the private sector as it is to the public sector...we have an obstacle in the public and NIMBY" (meeting, municipal sector, 09/26/90).

MOE's Approvals Branch was criticized for being unable to provide clear direction on EA-related problems. One participant suggested: "give some firm guidelines as well as to what the process is, not only for master planning but for site selection and that sort of thing for the EA process" (meeting, municipal sector, 10/11/90). Others complained that MOE suffered from a lack of internal direction: "until MOE comes up with strong guidelines for its own staff, forget guidelines for municipalities" (meeting, municipal sector, 10/30/90).

Overall, participants tended to find the EA process to be time consuming, frustrating, expensive, and generally unwieldy. Many called for legislative changes, particularly municipal participants.

METHOD USED IN THE PUBLIC CONSULTATION PROCESS

Many participants commended MOE for conducting public consultation on the issue of waste management. One representative comment stated that the MOE should be commended for "the mention of putting public participation in as a component of your financial sustainable program. Amen to that" (meeting, municipal sector, 10/29/90), another that private industry "congratulates the Waste Management Branch for initiating this look at the long-term needs of the Province...and for the introduction of a process designed to encourage public participation" (letter, private sector, 10/23/90).

Skepticism was voiced as to whether public consultation would result in real change and whether public input would be acted upon by government. One participant commented that "we all hear about public consultation processes and there is an impression among people that they go nowhere" (meeting, municipal sector, 10/03/90). Another stated that "we do a lot of talking about nothing to be doing something...people ignore these papers, it goes in the garbage and makes more waste" (meeting, private citizen, 10/03/90).

Alternatively, some participants suggested that the consultation process required some firm goal and direction from government: "I recognize a consultation has to occur with an initiative like this. Where do you go from here once you have all the comments from the respective groups?" (meeting, Federal Government sector, 10/25/90), and "this public consultation process is a political cop-out because...what the people need often is some type of direction as to what the real options are out there" (meeting, Federal Government sector, 10/25/90).

Some participants asserted that the discussion paper had "not reached them through normal channels" (meeting, municipal

sector, 10/30/90), and that the discussion paper did not reach many participants in municipal meetings. One participant commented that "I think that our council is aware that this came out, that is all I know about it" (meeting, municipal sector, 10/29/90). However, one participant commented that MOE "has made this document very accessible to the public and in welcoming public comment will make this process even better" (letter, private citizen, n.d.).

Generally, participants indicated that they appreciated MOE seeking their views on waste management and that the consultation process was a worthwhile exercise if comments made by participants were considered by MOE in setting future policy on waste management.

EDUCATION

Education was consistently advocated by many sectors of the public as the best way to foster reduction and re-use. A large number of participants agreed with the representative comment that "the two most important Rs are reduce and re-use. I want more money and time spent to educate people on what the problem is and what we can do about it" (meeting, private citizen, 10/01/90), and that "education is part of the solution, people can be taught, through the media, mailings and your newsletters of ways to reduce garbage output" (letter, private citizen, 08/19/90). A common theme was that "there are hundreds of thousands of citizens who would appreciate and benefit from information and educational programs that are accessible to them...we will all benefit when everyone becomes part of the environmental movement" (letter, private citizen, 09/12/90). Specifically, one participant suggested that "educating consumers on environmentally sound products as well as practices should be considered" (letter, private citizen, n.d.). One participant advocated spending more money "to educate people on what the problem is and what we can do about it. You talk about the educational value of the Blue Box but that seems like a cop-out" (meeting, private citizen, 10/01/90). This theme was also expressed frequently and seemed to be held by many participants.

Formal education on waste management issues within the school system was regarded as a Provincial responsibility and supported by all participants expressing an opinion. Generally speaking, participants suggested that the Province did not have a comprehensive program, and needed to expand educational programs to further adult education through advertising and consciousness raising exercises: "we need more than the original 4Rs, we need 're-educate' and 're-think' where we are going to" (meeting, Federal Government sector, 10/25/90), and further: "I believe that educating student awareness of environmental issues is important and necessary, but I also believe that educating the

elderly generation is another main concern" (letter, private citizen, n.d.). Overall, participants expressing an opinion favoured increased Provincial efforts to educate the public on the benefits of reduction and re-use.

CONCLUSION

The TSWMS discussion paper acted as a catalyst to discussion during the public consultation period. It triggered a wealth of written and oral comments suggesting methods to promote sustainable waste management practices in Ontario in the future. While the discussion paper raised broad themes for comment, many participants volunteered conceptually limited or specific concerns. This must be taken into account when drawing conclusions from this data.

Comments received during the public consultation process for the TSWMS discussion paper indicated that as a whole the public feels very frustrated with a perceived lack of progress in achieving a sustainable waste management system. Many participants urged the Province to move quickly to confront waste management problems, and indicated that action on environmental issues was a pressing priority. Over-packaged products and the lack of refillable beverage containers in Ontario were dominant themes with private citizens. Problems in siting landfills, and with EFW due to environmental assessment requirements tended to preoccupy municipalities.

Based on the results of the consultation, Ontarians are aware that sustainable development systems require a commitment to changing lifestyles and attitudes. They strongly support this concept and support policies designed to respect nature and to provide a healthy environment for future generations. It was generally felt that there is the capability and technology to accomplish this now. The MOE was urged to adopt strict controls to prevent environmentally damaging activities, and to proceed with specific policies and programs to achieve a sustainable waste management system.

APPENDIX A.

Glossary of Abbreviated Terms Used in the Text

- o 3Rs - Reduce, Re-use, Recycle
- o AMO - Association of Municipalities of Ontario
- o EFW - Energy From Waste
- o LCBO - Liquor Control Board of Ontario
- o MISA - Ontario Municipal and Industrial Strategies for Abatement Program
- o MOE - Ontario Ministry of the Environment
- o MSW - Municipal Solid Waste
- o NAPP - National Packaging Protocol
- o NIMBY - "Not in my backyard" syndrome
- o OMMRI I - Ontario Multi-Material Recycling Incorporated, (first incorporation)
- o OMMRI II - Ontario Multi-Material Recycling Incorporated, (second incorporation)
- o TSWMS - Towards a Sustainable Waste Management System
- o EA - Environmental Assessment
- o NRC - National Research Council
- o C of A - Certificate of Approval

**APPENDIX B
DESCRIPTION OF DATA**

SECTORAL PARTICIPATION

SECTOR		WRITTEN SUBMISSIONS	ATTENDEES AT MEETINGS
1.0 MUNICIPALITIES			
1.1	Elected Officials and the Municipal Public Service	5	124
2.0 PRIVATE SECTOR			
2.1	Waste Management Industry	1	0
2.2	Industrial/Commercial/ Institutional Waste Generators	3	18
3.0 GENERAL PUBLIC			
3.1	Interest Groups	3	48
3.2	Residential Waste Generators (private citizens)	91	152
4.0 FEDERAL GOVERNMENT			
4.1	Elected Officials and the Federal Public Service	2	21
5.0 PROVINCIAL GOVERNMENT			
5.1	Elected Officials and the Provincial Public Service Service	1	0

APPENDIX C
MEETINGS WITH SECTORAL GROUPS

<u>GROUP</u>	<u>SECTOR</u>	<u>DATE/ LOCATION</u>	<u>ATTENDEES</u>
1. Rotary Club of Toronto (Armor Heights)	Interest Group	09/04/90 Toronto	9
2. Price Daxion Sales Team (Div. of Abitibi Price Inc.)	Commercial Waste Generator	09/13/90 Toronto	18
3. AMO (Waste Man. Comm.)	Municipal Public Service	09/13/90 Toronto	12
4. Northwestern Ontario Planning Conference	Municipal Public Service	09/14/90 Fort Frances	15
5. It's Not Garbage	Interest Group	09/18/90 Toronto	11
6. Recycling Council of Ontario Breakfast Forum (no comments were recorded at this meeting)	-	09/22/90 Toronto	-
7. Conservation Council of Ontario	Interest Group	09/26/90 Toronto	28
8. Burlington City Council (Comm. on Sustainable Dev.)	Municipal Public Service	09/26/90 Burlington	15
9. Public Forum, Essex-Windsor	Private Citizens	09/27/90 Windsor	57
10. Public Forum, Sudbury	Private Citizens	10/01/90 Sudbury	70
11. Public Forum, North Bay	Private Citizens	10/03/90 North Bay	25
12. Region of Hamilton-Wentworth	Municipal Public Service	10/11/90 Hamilton	14
13. Region of Kitchener-Waterloo	Municipal Public Service	10/15/90 Waterloo	15

APPENDIX C CONT.

<u>GROUP</u>	<u>SECTOR</u>	<u>DATE/ LOCATION</u>	<u>ATTENDEES</u>
14. Environment Canada, Energy Mines and Resources Canada	Federal Public Service	10/25/90 Ottawa	21
15. Waste Management Master Plan Workshop	Municipal Public Service	10/29/90 Toronto	40
16. Region of Niagara	Municipal Public Service	10/30/90 Thorold	13

TONE OF ORAL COMMENTS AT MEETINGS

<u>TYPE OF STATEMENT</u>	<u>GROUPS RESPONDING</u>				<u>TOTAL</u>
	<u>Municipal Gov't</u>	<u>Federal Gov't</u>	<u>Private Citizen</u>	<u>Interest Groups</u>	
Request for MOE Policy	30	28	12	4	74
Request for Information	16	4	24	23	67
Request for Advice on Municipal Policy	6	0	0	0	6
Statement of Opinion	69	39	25	4	137
Strong Statement of Opinion	25	8	14	2	49
Confrontational Statement of Opinion	52	12	30	10	104
Equivocal Comment	6	5	1	0	12
TOTALS	204	96	106	43	449

APPENDIX B

**Discussion Paper Response
Letter Log**

Tally of Comments

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Reta Dobbs	Peterborough, Ont	Educate on sound products; Reduce & reuse need greater education	Offer incentives to companies that manufacture reusable products & minimal packaging Facilities should be publicly run -- not private; opposes pay per bag	Improve Master Plan process - share info among municipalities.	opposes EFW; limit number of bags for pickup while recycling scheme set up	lack prompt assessment process, research for secure landfills
Rob Doherty	Peterborough, Ont			Need to plan waste management in broader context of the environment	Should have discussed new technologies being considered (wet/dry, EFW)	Should have listed other foreign systems examined by MOE (eg. Japan); paper should have listed examples of proposed policy and implications.
David Buckley	Peterborough, Ont	Hazardous products manufacturers be responsible for product recovery & disposal; change of attitude needed Waste mgm't issues need to be part of school curriculum -- Develop better markets for recyclables	Supports full-cost accounting concept; producers of the products should pay their share; should have made economic connection between post-closure expenses & problems -- violators should go to jail		opposes EFW	Welcomes public input process
William Dick	Stittsville, Ont.		Northern Ontario & other "unorganized areas" need greater technical and financial help			
Sue Upham County Lanark Environmental Action Network (CLEAN)	Perth, Ontario	Need more emphasis on Reduce, Reuse policies	Agree with full cost accounting; tax incentives for 3R products & disincentives for disposables	Master Plan and Approvals processes need clarification	oppose EFW	Support NAPP initiatives but need to uncover hidden subsidies on virgin materials to make recycling more economically competitive

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Peter Leiss Chairman "It's Not Garbage"	Toronto, Ontario	Mandatory Source separation -- secure storage facilities for re- cyclables; increase 3Rs fund- ing; industrial sector needs more attention. Manufac- turer should be respons- ible to reduce packaging; need better collection system for household hazardous wastes; More 3Rs education needed for students				Create a "Waste Reduction Office" Paper lacks political will for changes needed
M. Holenski President, Municipal Engineers Association	Thorold, Ontario	Need greater cooperat- ive emphasis on source reduction industrial commercial sector needs to be address- ed; Need more education; Ban dispo- sables (diapers, cameras, razors); regulate industrial solid waste at source; make waste exchange programs mandatory; Reuse needs more policy emphasis) *	Provincial or Federal government needs to develop markets for recyclable & direct pricing schemes; Simplify subsidies & grants & add incentives.	Approvals process needs improvement; Municipal role under EAA not given enough discussion; WMMP process should have been explained in document and needs improvement; Current regulations re: landfills are unworkable; Legislation for waste generators is needed rather than policing left to municipalities	EFW should be considered an option	Need better definition of environmental sustain- ability; Appended 5pp of specific comments from municipal- ities

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Steve Simmans	Peterborough, Ont	Waste management should be part of required curriculum starting in early grades		p.9 Timely facility development important but EA process should not be compromised to hasten decisions	oppose EFW -- it conflicts with recycling	
Gerry Bernard	Peterborough, Ont	Recyclable materials should be banned from landfills	Costs of site closure should be incorporated into tipping fees	Each municipality should have its own Master Plan		p. 35 List of facilities & related documents should include landfills so public has greater knowledge of their operation
Tab Clarke	Peterborough, Ont	Further encourage Reduction & Reuse; Expand recycling facilities & develop greater markets	Supports full cost accounting; Having producers take back waste is not efficient enough to ensure cost of disposal is included in prices	Implement proposed Reg. 309 amendments	opposes EFW it conflicts with 3Rs	Require waste audits; Goals on p. 21 are realistic & attainable without EFW
Peter Leiss Chairman, Metro C.U.P.E. Council	Mississauga, Ont.		Programs need expansion to capture industrial commercial wastes; waste management should be legislated	Profits from waste disposal should go to financing programs that aren't cost effective		System must be publicly owned and operated
Amy Weston	Peterborough, Ont	Municipal gov'ts should play greater role in education for 3Rs programs to succeed			EFW conflicts with other 3Rs goals	
A. Baldwin	Peterborough, Ont	Education currently directed to schools but more needed to educate "post-education" sector (ie: over 30 crowd)				
Jackie Heath	Peterborough, Ont				Regulate distance a mun'plty can travel to dump (excl.hazwste)	

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Marsha Franklin	Peterborough, Ont	Composting and re-cycling should be mandatory. Reuse & repair centres should be included in talk of recovery facilities			EFW funding from MOE conflicts with 3Rs principles	
Brad Deacon	Peterborough, Ont		Hazardous waste disposal should be joint effort of generators, government and public sector.		Haz. waste generators should be responsible for collection/disposal of their products with gov't & public reps	
Lynn Tolland	Peterborough, Ont	Need to regulate products to reduce waste ie: packaging; 4th R: Recovery - should be discussed (Recovery of energy & mat'ls)	Should fund methane recovery process at landfills		Funding EFW conflicts with EFW as "last resort" option -- EFW should be considered last on list	The role of avoiding purchase of environmentally damaging products should not be public's role - need leg'in to control such products Document well written & easily understood, informative. Recycled content should be required as high as the market can supply, rather than simply setting a percent content
Doris Topolsek Councillor Erin Township	Hillsburgh, Ont.	Reduce funding to buy supplies to encourage better use of paper	Implement tax on disposable products (cameras, lighters, razors, etc.) to support new businesses that reduce disposables			
Murdo J. Murchison	Peterborough, Ont				Opposes EFW as it conflicts with 3Rs	Lists environmental and economic concerns re: EFW

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

AUTHOR/ ASSOCIATION	ADDRESS	COMMENTS (PRIMARY/SECONDARY)				
		3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Phyllis Creighton President, Conservation Council of Ontario	Toronto, Ontario	Reduction targets timeline not ambitious enough -- should be based on 1988 baseline; targets should be set for each of 3Rs - such as in NAPP	Questions of who pays, & how, require better discussion. Paper should assess /address a number of alternate financing schemes (surcharges, special taxes, bans, etc.)	Waste mngm't policies must be in context of unified provincial environmental strategy; Incorporate this strategy with MISA, CAP. No rationale given for diversion targets. MOE should release policy paper by Mar. 31, 1991 for public comment		Paper fails to address associated air, water & hazardous waste programs in the Province; MISA & CAP will result in more solid waste needing disposal. CCO welcomes opportunity to be full partner in future discussions
Morley Fleguel	Nepean, Ontario	Develop a 4th "R": Refill. design a comprehen- sive refill system for all containers & set up collect/ refill network				
R.O. Acosta	Peterborough, Ont	Packaging needs enforce- able national standards	Should not fund EFW plants	Planning needs all sectors and levels of gov't including international	Opposes EFW Establish monofills to take specifics not just all wastes in one site	Document should be used as example for other provinces & countries; Laws needed to control producers of goods (ie: industry); Regulate advertising of disposables, etc.
R.G. Laughlin Ortech International	Mississauga, Ont.	Necessary to increase R & D to reach diversion targets; R & D on waste streams & how to "3R" them; create a centre for 3R's R & D	Support "beneficiary-pay" principle			eg: Illinois EPA; Discussion paper excellent

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Dave Erskine	Lindsay, Ontario	Build & fund Material Recovery Facilities -- develop a label system to identify products' env'tal effects to educate public		Should be more considerate of landowners' rights re: site testing and evaluation	Opposes EFW as it de-emphasizes 3Rs	Paper very informative; enforcing national standards on packaging is a good step
Marianne Levitsky City of York Environment Sub-committee	City of York, Ontario	Support principle of front end diversion requirement on recycle-ables	Endorse principle of beneficiary-pay or product stewardship			
Terry Birrel Manager, Environmental Affairs Lily Cup	Scarborough, Ont.				EFW (4th R) should not have been left out of the planning discussion, supports EFW as one component of the system	
Gail Bebee Manager, Environmental Protection Canadian Tire		Should include 4th R; increase education: Canadian Tire prepared to work with gov't; oppose "deposit system" for household haz. wastes (fear liability, worker safety); Canadian Tire wants to take back used motor oil, but needs help from MOE	Financing of recycling systems for secondary mat'l recovery should be cost-shared among all parties; support full-cost-recovery concept & cradle-to-grave concept for manufacturers in some cases	Support proposals of MOE surrounding landfills, Reg. 309, past performance for C. of A., etc.	Support EFW	Agree with private sector responsibilities listed on page 10
Ed Van Stidhout	Peterborough, Ont	More emphasis needed on Reduce and Reuse		Questions the targets for diversion -- are they really achievable?		

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Jeanne Matthews	Peterborough, Ont	Need more public education on Reuse/Reduction; Funding from all levels of gov't for reduction efforts; continue to fund R & D	Full cost recovery: amount paid could be based on weight or volume of waste produced at end of manufacturing & end of use by public; Paper looks at beneficiary-pay. Should give financial incentive to companies to use recycled products/material rather than primary resources			
Ben Wolfe	Peterborough, Ont	Supports emphasis of at-source reduction; Manufacturers should pay for re-cycling their products; Regulate packaging: it must be recyclable	Supports principles of full-cost accounting; should require complete life-cycle costing of products; Tax hazardous products	Consider bans on disposable products	EFW financial assistance should be halted -- it's inconsistent with 3Rs	Document well written & presented "easily accessible" to the general reader; Paper lacks concrete examples of how to achieve goals
Pam Oliver	Peterborough, Ont	Reduction & Reuse not given adequate discussion -- Need a change in societal attitudes to reduce waste	Cost of facility improvements, expansion, maintenance and closure were not given adequate discussion. How much will it cost in transition from today's system to a sustainable one? Supports beneficiary-pay scheme (p. 27) Base tipping fees on composition of waste	Goals set were reasonable and necessary; Legislate a ban on hazardous products that have environmentally-friendly alternatives		Supports public consultation process; indicates a crucial step in co-operative effort to solve problems
Eric Bergenstein	Fonthill, Ontario					Packaging protocol not got enough priority in fed. & prov. gov'ts. MOE should do an examination/ comparison of Sweden & UK & Canadian. re: waste amounts & lifestyles & distribute it publicly

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

AUTHOR/ ASSOCIATION	ADDRESS	COMMENTS (PRIMARY/SECONDARY)				
		3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Dona Stewardson Chair, Environment & Rural Development Committee Ont. Federation of Agriculture	Toronto, Ontario	Support 3Rs hierarchy; 50% reduction is too conserva- tive			Is EFW still an acceptable option, given new government?	Explanation why Canadians generate more waste than other nations would have been useful
Dan Hoornweg Association of Municipal Recycling Coordinators		Need to establish realistic markets for recyc- lables before implemen- ting collection systems; Need more R & D on cradle-to- grave mgm't and impact of products; Need ongoing waste compositi- on studies in every munc'plty	Current HHW collection costs prohibitively high and do not address true cost of establishing depot. Full cost of life- cycle should be incorporated into product cost; need greater funding to ICI sector to recycle	Municipalities need legislated appropriate authority for waste flow; Eliminate private landfills		
Al Davidson Waste Management Coordinator County of Kent	Chatham, Ontario.	Primary materials for manu- facturers are often more ad- vantageous than reuse /recycled materials. Market develop- ment needed	Current landfill costs artificially low -- they don't account for remediation, closure. Despite full-cost recovery schemes, financial support will be needed for the transition; Financial sustainability is multi-stakeholder responsibility requiring ongoing funding of capital & operating costs of municipal systems	Future plans were too general in the paper -- how do we intend to reach 50% target; doubt whether new regulations will be workable -- Streamline the WMMP process before any mandatory requirements are made; Priority should be given to improving EA & Approvals process; Municipalities should be involved in formulation	Ontario too dependent on landfilling & not enough on alternatives to disposal; Facilities must always be state-of- the-art to ensure high environmental performance; MOE should state a policy on EFW, not just pass it on to Min. of Energy. This policy should be proactive	
M.W. O'Connor Grocery Products Manufacturers of Canada, Chairman Environment Committee	Mississauga, Ont	Caution against blanket ban on dis- posables; Support NAPP objectives for packaging	Support principle of financial sustainability, increased tipping fees & charge by volume produced; Better system than tax on packaging	Support national standards and regulations; Regulations must be clearly thought out re: local and free trade	Support EFW where needed	Document comprehensive and well thought of

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
R.D. Funnell City of Guelph	Guelph, Ontario	Emphasis on Blue Boxes should be as an education tool, vs. practical diversion. Private sector should take responsibility for their products; Return system for large good packaging is a good idea; MOE should be consistent in # of Rs --keep 4-- Recovery isn't necessarily incineration STAR should go further; make deposits mandatory	"Full cost accounting" will need new economic model to be successful; now economics encourage us to produce waste; Price of products should reflect cost of disposal; Pay-per-bag would need to be by weight, not volume	Long term planning currently inadequate; we should look at final goal and work backwards, not just "build on the Blue Box" -- Province should study how the 50% target will impact on economy; WMMP process needs improvement; Revisions to EPA shouldn't completely prohibit building on/near old landfills after 25 years	Need new initiatives to handle small quantity generation of hazardous wastes; Landfills are a waste of potential resources; Household haz. wastes should also include small generators	Title ambiguous; "Sustainable development" targets elimination of waste so no system in Ont. should be sustained but should be flexible to reflect the elimination of waste. The garbage crisis is a political not a technical problem: report does not address this; Packaging redesign should also require product redesign -- MNR Class EA on timber dismisses recycling: All gov't action should have 50% in mind; MOE as "protector", "advisor" & "funder" roles need to be resolved (they often conflict)
Paul Smeltzer Chairman Hamilton-Wentworth Waste Management Coordinating Committee		Gov't has role for 3R education, especially reduction, Develop markets for recyclables	Approve of "self-sustaining principle" but with reservations; OMMRI approach "self-serving" - provides no long term cost relief to municipalities; Residential rate-payer bears excessive costs of "beneficiary pays" system, "Green" taxes should be directed to the problems to which they were targeted and not into the general revenues (eg: the tire tax)	Need to clarify authority for waste management through Municipal Affairs; EAA process needs to be streamlined	Legislate action against illegal dumping; Clarify the role of EFW; Province needs to show more flexibility on options (eg: tire burning)	(views expressed by individual members) Document a good "first step"; legislate excessive packaging, Why was commercial/ industrial sector left out of discussion paper? Minister should issue statement of commitment to goals established in the document

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Joan Huzar Consumers' Association of Canada (Ont.)	Toronto, Ontario	Good that 3Rs hierarchy forms the basis of the report -Reduction needs more emphasis; Gov't should resist pressure from ind- ustry to use recyc- liable cans vs. returnable bottles; Legislate recycling as mandatory; Need com- mitment to public education, especially Reuse/ Reduction. Extend/ educate on composting -- improve HHW collection opportun- ities	Need commitment from industry to address the problem that repair is more costly than replacement	Legislate packaging; CAC supports suggested regulatory initiatives; Use full consultative process to design new regulations	Concerned about EFW ash disposal	Document's philosophy good but needs action answers; Need system for public to I.D. products to avoid; consumers don't have alternatives to choose to avoid many overpackaged products; Document an excellent overview of situation and gives Ontario direction
Duncan MacDonald Programs Coordinator Ontario Federation of Labour	Don Mills, Ont.				What is the role of the Provincial Government? 1) involve all interest groups in discussion 2) Develop comprehensive waste manage- ment policy, not in isolation from MISA, CAP, etc. 3) Role as a model to others	
Price Daxion (Division of Abitibi-Price						Comments on company's approach to environmental concerns; (not specific to the actual discussion paper)

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

AUTHOR/ ASSOCIATION	ADDRESS	COMMENTS (PRIMARY/SECONDARY)				
		3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Jill Dunkley Director, Information Services Recycling Council of Ontario	Toronto, Ontario	<p>Diversion target of 50% should be a minimum; What % will each "R" be of the total diversion? All packaging should be recyclable -composting needs</p> <p>greater promotion and financial support; Blue Box promotion budget only \$.10/house/year & needs to be higher; Reuse option should extend beyond soft drinks & beer bottles</p>	RCO proposed more equitable cost-sharing formula	Unorganized areas "need to be addressed"; Task Force with MNR involvement needed to develop action plan to upgrade landfill sites on Crown Land	Oppose EFW	<p>Government roles should be ahead of private sector; setting and enforcing national standards for packaging is very important; Goal statement is very encouraging and realistic; Term: "post-consumer" should be used vs. just "recycled content" for recycled paper; should have list of definitions of terms in document; Per capita waste figures (p.4) are unclear; Explain/discuss the Washington Analysis Corp. table & figures (p.7)</p>
John Paulowich Canadian Tinplate Recycling Council	Hamilton, Ontario			Concerns that purchasers of recyclables from Blue Box program will be expected to pay higher prices for materials in order to cover operating costs of the collection system; To level the playing field, materials not being recycled should pay a penalty tax with money collected to pay for the Blue Box system -- this will make industries not recycling, take on their responsibilities		

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Nancy Proteious-Koehle Director, Public Affairs WMI Waste Management of Canada Inc.	Mississauga, Ont.	Price incentives on virgin materials should be removed to encourage use of recyclables; "recycling" means more than source separation -- it is successful use of collected materials in another useful product; Composting needs to be regulated; Responsibility for recycling should be placed on generators -- the province should stress market development	Consult with private enterprise to set full cost accounting criteria -- Support full cost recovery, but to achieve it all subsidies should be removed and risk borne by supplier of the system; Environmental protection costs should be included (decommissioning/monitoring): Gov't should implement financial assurance mechanisms for closure, monitoring corrective actions	Don't support "legislation" approach; WMMP process needs to be re-examined Paper fails to mention the critical role the private sector plays in developing necessary infrastructure to implement a waste management system	Facilities should be private sector -- Landfill portrayed too negatively; They are an essential part of a sustainable system; Boundaries should be eliminated for transportation/recycling/disposal of wastes; Larger, environmentally protective facilities are better than small ones scattered around the province; Caution needed if C. of A. tied to recycling targets; p.35 composting should be included in list of facilities; Post closure period should be based on site monitoring, not a set time frame	Government must set example with procurement policies to stimulate markets
P.N. Summers President, Hanson	Toronto, Ontario	Better education is key to achieving targets; Offer tax incentives to companies who educate their staff on waste management; Offer incentives for doing waste audits	Support user-pay principle and economic incentives for 3Rs	Systems should be privately run		Enclosed Canadian Manufacturers Association speech and sustainable development paper

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMM NTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
D. Edgecumbe Edgecumbe Consulting Services	Mississauga, Ont	Comments on user-pay concept cites examples in Japan, Britain; should tax free newspapers and flyers that are distributed through street boxes				Enclosed article on "Clean Japan Centre"
Donald Coates Chairman Ontario Waste Management Association	Etobicoke, Ont.	Diversion rate more than 55% - 60% is not possible; Diversions must be encouraged from the market sector as well as reduction at source; Gov't should encourage 4th "R" of Repairability; Gov't should set example of 3Rs thru its own practices & procurement policies; Public role should include: avoid purchase of non-repairable items; Province should increase education to consumers on sound environmental practices;	In past, commercial sector of waste management service industry has been financially independent and wishes to remain so -- Federal gov't shouldn't have to fund provincial, municipal or commercial initiatives; Feds & province should promote national markets for materials; p.13 first point is not compatible with a user-pay program; User-pay system doesn't require government subsidy when true cost of service is recognized and charged; Consult private enterprise when developing full cost accounting scheme; Municipal haulers & private haulers should be charged same tipping fees. Cost of management must be borne by generators of waste -- Misleading to say management costs currently paid out of tax monies. ICI wastes are essentially all managed by private sector on user-pay basis; Tipping fees inflated to cover costs of household waste disposal - true costs unknown.	Legislative and regulatory framework needs amendment to create "level playing field" for public and private operators; WMMP process frustrating and unproductive; Approvals system needs workable framework or else a sustainable system is impossible; Municipalities should share responsibility for waste mgmt with private sector - ie: partnerships; Review legislation to make all relevant Acts (EAA, EPA, Municipal Act, Planning Act) compatible	Attitude expressed toward landfills is too negative; Need for landfill must be recognized in future documents coupled with environmental protection features; P. 9 Timely facility development: MOE attitudes don't support this. MOE staff don't seem to want to challenge the status quo with new technologies; Recycling and composting facilities should have site decommissioning costs prescribed during approval and included as part of uses fees; Encourage central compost facilities; Have concerns about minimum distance figures (P.34) --P.35 facilities list should include compost, mobile leachate treatment,	p.10 bullets 1,2,5 for private sector must be equally applicable to municipalities to create a level playing field; Document should recognize that 60% of waste generated is managed by private sector who should be a major factor in finding solutions; p.16 Private sector not mentioned & should be; Appendix I does not list past & current involvement of OWMA industry and "commitment to excellence" -- this is a serious oversight of proven capability

(continued on
next page)

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
(Donald Coates OWMA cont....)		Gov't must ensure that financial/regulatory incentives which encourage use of virgin materials over re-cycled are reversed to ensure recycl-ables markets; Agree that composting plays significant role and want to be included in public review of compost guidelines	Waste management can be made environmentally sustainable but not administratively nor financially sustainable under current conditions		landfill gas management	
Thomas A. Derrick City Clerk City of St. Catharines	St. Catharines, Ontario	Need specific policies & financial support for Reuse/Reduction programs; Develop/enforce regulations to maximize reuse of beverage containers eg. deposit system; Extend & increase financial support for Blue Box and other 3R programs. (discontinue sliding-scale method of funding)	Paper realizes problems with WMMP & approvals but doesn't discuss solutions; Municipalities can implement 3R programs but are constrained in solving larger problems & MOE needs to develop workable solutions; Province placed financial burden on municipalities to re-cycle without implementing programs, policies and regulations to 1st reduce waste (eg. packaging); Concern with MOE tendency to adopt "proposals & unwritten policy" rather than statute regs. with firm basis in law (in ref. to WMMP process); Need to immediately resolve approvals for mncpl facilities; Develop regs. for recycling & composting facilities; Involve municipalities in all formulation of waste mgmt policies/regulations/planning & strategies	Paper doesn't discuss specific examples of programs or changes to regulations; Packaging needs strong commitment at both Federal and Provincial level to be reduced at source; Overall concepts in paper are appropriate and need workable programs to address problems in reasonable time frame; Complete the background studies described in the paper as necessary to implement initiatives		

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
J.D. McTaggard-Cowan Director Environmental Affairs Energy, Mines & Resources Canada	Ottawa, Ontario	Strictly speaking, <u>reduction</u> isn't diversion; Why is 'Recovery' in terms of incineration not included? What about Redesign, Rethink, Repair? Increase 50% diversion target; Reduction needs more emphasis - recycling not diverting enough. Examine mass recycling rather than "at source"; Gov't at all levels should set example of sound waste practices; How were MOE 25 and 50% targets established? MOE should look for alternatives to current collection processing -- Support 4th R of Recovery, as relates to minor sector	Who will pay for waste management system? True costs of Blue Box program (markets, etc.) need to be examined	Allow environmental groups to participate in decision making; Industry's proactive role (eg. C.A.R.I.) should be recognized; Planning framework should go beyond the year 2000. Municipalities lack clear authority/mandate on waste management, and also WMMP process unclear. Site selection process needs evaluation re community involvement.	Portrayal of waste management as 2-pronged (diversion via 3Rs & disposal via landfill/incineration) is too simplified -- Should portray waste management as a complete set of options; Methane emissions from landfill need attention - need to divert from landfill as much as possible; Incineration should be given greater attention (it uses less land no groundwater contamination, no methane gas problems); Ontario should examine lesson learned in Europe etc re: waste mngm't; Needs examination of life style, costs of products, supply/demand etc.; Garbage should be viewed as a potential resource, rather than waste; More funds for R & D on "how-tos" & use of economic tools to encourage industry. New products should enter market only after disposal recycling and recovery options have been considered. Then costs of handling could be incorporated into price. Product criteria developed prior to market intro.	

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Mike Hyde Director, Environmental Affairs Dow Chemical Canada, Inc.	Sarnia, Ontario	Reduction should be discussed for each sector separately since each has own interpretation and industry has done much in the past; Need to develop method to measure reduction activities & their impacts; cost of recyclable products must reflect cost of virgin materials in order to be competitive	Industry should not be required to pay collection and operating costs now being handled by municipalities; Agree that costs should be reflected in product prices and borne by consumers; Costs should be reflected in residential tax bill; Costs of social behaviour should be borne by public and control of costs by municipality		Recovery of energy and the need for landfills should be given equal emphasis	Need a level playing field to address waste management issues: How will imported materials be handled?
Douglas Robinson President, G.R.D.C.A. Governmental Refuse Collection & Disposal Association			An integrated waste system should be allowed to process and divert material from the disposal option through the best available solution in the free marketplace; Tipping fees should be used to pay, plan, operate and close a disposal facility; Beneficiaries of waste diversion programs should pay for the service	Current policy fails to set goals that are physically and financially sustainable; Proper planning is essential - proponents and operators of waste systems need clear policies and regulations for systems to be sustainable	Methods and technologies to process waste into reusable/recyclable materials currently exist, but infrastructure to support these does not	Waste management in Ontario presently is neither environmentally nor financially sustainable
David Hoppner Chairman, Waste Resources Advisory Committee North Bay	North Bay, Ont.	Need clear targets & time lines on each of 3Rs; when will national packaging standards be set?	Fully support full cost accounting, including tipping fees	Fully support NAPP work	Question incineration: due to environmental effects; public perception then becomes one of "produce more garbage to feed EFW", EFW capital costs too high; Papers lacks policy on garbage transport	Requested copy of final report on input received; Fully support intentions put forward in document

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Robert Squires Policies Programs & Packaging Office of Waste Management Environment Canada	Ottawa, Ontario	Too much emphasis on disposal of waste rather than Reduction of amounts generated. Need to entrench sustainable development theme in education system	Practice full cost accounting to sustain system; Costs of waste management should not be taken in isolation, but as one component of sustainable development issue	Waste management requires shared responsibility at all gov't levels, industry and consumers. Gov't intervention must consider industry in international context	Plan/manage landfills as a limited resource; Promote 4R hierarchy	Too much emphasis on "end of pipe" solutions. This places burden on municipalities to "manage" wastes; Need change of attitude to achieve reduction
A.B. Garnett City of Ottawa Department of Engineering Works	Ottawa, Ontario	Need to explain the diversion targets (what's the base year); Need strict definition of terms such as recycling, recyclability, etc -- Prov. should go beyond Nat'l Packaging Protocol & take lead to reduce packaging waste and emphasize 3R hierarchy; Province should stimulate markets and find studies to develop new markets	Province should promote full-cost accounting and develop guidelines for use by municipalities in setting fee schedules; caution against user-pay system as hard to police and lacking provincial standard		Is central composting going to have major role in diversion goals? If so, how much?	Paper does not provide vision of system capable of achieving & sustaining diversion goal; Paper lacks detail; Environmental sustainability not adequately addressed
Joan Grey	Nepean, Ontario		Opposes pay per bag - problem with apt's			Over-packaging
Mark Winfield	Willowdale, Ont.		Waste Management is a problem of economic structure & inefficient resource use; pay per bag is regressive tax.	Implement idea to look at past record before issuing new C of A. Paper should look beyond year 2000.		Paper only offers 2 new initiatives; Government should do more re procurement policies to support market

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

COMMENTS (PRIMARY/SECONDARY)

AUTHOR/ ASSOCIATION	ADDRESS SUSTAINABILITY	3Rs	FINANCIAL	PLANNING	TREATMENT/ DISPOSAL	OTHER
Audrey Voice	Ottawa, Ontario		charge per bag & tax credits			litter con- tainers on street for recyclables
John Franklin	Vars, Ontario		opposes tax on garbage			
Mrs. Jeanette Arthurs	Ottawa, Ontario		opposes pay-per-bag idea			
Mr. Douglas Heard	Cobourg, Ontario		supports fee levied on basis of amount produced if promotes the use of garbage bags instead of cans			
Mr. E.G. Etherington	Thunder Bay, Ont.		opposes surcharge on bags			
Ms Kathleen Stover	Forest, Ontario		opposes charge per bag			
Arthur Davis	Port Lambton, Ontario	suggests province wide re- cycling program, including industries	fee per bag would help encourage re- cycling, implement fee only where re- cycling is in operation, & don't charge for pick up of materials recycled	Counties should have responsib- ility for admin- istration of program		
Beverly Davis	Ottawa, Ontario	educate consumers and industry re: packaging	opposes fee per bag			Ottawa City Council just rejected a similar proposal; reduce excess packaging
Madelon West	London, Ontario		supports pay per bag concept			excess packaging
Sonia Sawchuk	Ottawa, Ontario		supports pay per bag over tax credit			excess packaging
Wayne Haw	Scarborough, Ont.	increase education around reduction	opposes pay per bag			
Arthur Bray	Ottawa, Ontario	expand re- cycling programs; more education on waste reduction	disagrees with pay per bag		find new dumps as priority	excess packaging

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

COMMENTS (PRIMARY/SECONDARY)

AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Margary V. Boyer	letter to the editor: Thunder Bay, Ont.		opposes pay per bag concept: how would it be policed, why should we pay for junk mail, how to control dumping into commercial dumpsters			This letter clipped and sent by other citizens
Olive Kolomy	Thunder Bay, Ont.		opposes pay per bag			
Alan Stewart	Niagara Falls, Ontario		opposes pay per bag			
Debbie Foster	London, Ontario	increase recycling of plastic ; more reduction needed	opposes pay per bag			reduce excess packaging using strict guidelines
Mrs. Marie Somerville	Hamilton, Ontario		thinks tax is a bad idea ; must also hit apts. and condo's		Lottery should go to build recycling plants	excess packaging
Gail & Simon Linklater	Thunder Bay, Ont.		opposes tax per bag			sent M. Boyer's letter
Mrs Verlene Vanderway	Thunder Bay, Ont.					sent M. Boyer's letter
James Somerville	Hamilton, Ontario		opposes tax		build incinerators & EFW plants	excess packaging; deposits on soft drink bottles; tire tax not working
Mr. P. Joannis	Gloucester, Ont.		opposes cost per bag concept			
Mr. Fisher Town Engineer Town of Dryden; Chairman of the Board Northwest Ontario Recycl- ing Association	Dryden, Ontario				supports EFW; discussion paper lacks substance in this area	presents arguments to justify incineration based on economics, paper recycli not economica in the north: EFW is
Ralph H. Rethoret	North York, Ont.	repair of electrical equipment not economical vs. buying new	opposes charge per bag			had seen the document; excess packaging

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

COMMENTS (PRIMARY/SECONDARY)

AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Robert Fallis	Whitby, Ontario		opposes cost per bag concept			excess packaging; junk mail
Mrs. V Eaton	Brantford, Ont.	expand blue box	opposes charge per bag			excess packaging; tire tax questioned
Pedro Thomas	Mississauga, Ont.				build more recycling plants	
Peter Iannizzi	?	supports recycling				
Sheila Northcote	Toronto, Ontario	supports central compost facilities -- improve recycling collection to avoid contamination	supports generator-pay concept		increase household hazardous waste days	received copy of Discussion paper from Dianne Poole; NAPP should be enforceable -- glass
Margery Hedden	Harley, Ontario		opposes generator pay			
petition of 19 names	Thunder Bay, Ont.		opposes generator pay		—	sent M. Boyer's letter
A. Cassidy member of area Waste Management Plan	Delta, Ontario	government should set an example of reduction				use less paper to print documents
Marie F. Harris	Erin, Ontario	supports hazwaste collection days & making backyard composters available; continue education of both	opposes pay-per-bag but supports tax incentives for recycling and reduction			use paper more efficiently in gov't documents; excess packaging; attitudinal change needed; manufacturers should be responsible for garbage their products create

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

COMMENTS (PRIMARY/SECONDARY)

AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Mrs. J.A. Kennedy	Toronto, Ontario	comments on reduction; need to expand mat'ls in blue box; legislate mandatory source separation for <u>all</u> sectors; legislate deposits on all soft drink containers			legislate a ban on incineration	report lacks a clear policy direction on reduction
Ken Bradley Manager, Waste Reduction OWMC	Toronto, Ontario	more education needed; MOE should input with Min. of Education	increase cost of raw materials to make recycling economically attractive; cost should lie with users of goods and services that produce waste	support full cost recovery concept	Ontario relies too much on landfill	Manitoba paper, 1989, "Harnessing Market Forces to Support the Environment"
Lynne Ingham	South River, Ont.	Strong lgsl'n needed to give direction; composting needs more support; finance composting in restaurants; need a collection system province-wide for household hazardous wastes		"Unorganized areas" (MNR) need to be addressed	opposes EFW	lacks specific ways to reach goals reduce packaging
Stormont- Glengarry Waste Management Master Plan, Public Liason Committee Patricia Gregory	Williamstown, Ontario	Increase financial assistance and MOE staff to implement 3R program -- Budget should reflect 3R hierarchy (more \$ to reduction initiatives)	Manufacturers need to take more responsibility for costs (cradle-to-grave concept); Tipping fees should reflect true costs; suggest combining tipping fees and charge for over-weight garbage; refundable deposit on tires (rather than tax) and seller responsible for disposal	Increase staff to address planning; too much emphasis on landfills in the Master Plan process; need waste stream analysis	Agree re: closed sites control changed from 25 years to "perpetuity"	Not enough "how-tos" in the document -- publicize gov't initiatives to show example
Vicky Jeffery	Peterborough, Ontario				opposes incineration	

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT/ DISPOSAL	OTHER
Frank Verge	St. Catharines, Ontario	extend recycling systems to apts, restaurant & hotels, malls, arenas; encourage home composting -- recycle ALL food wastes; legislate & recycled content in packaging				excess packaging
Seymour Applebaum	Toronto, Ontario	need to expand education to more languages than French & English; cultural outreach to get message to other groups				
Peter Milliken M.P.	Ottawa, Ontario	Deposits on LCBO bottles				
Gordon McNulty Editorial writer Hamilton Spectator			supports user-pay, pay per bag			sent his article on the concept Cobourg working with Proctor & Redfern on user-pay system
Sam Hambly	Downsview, Ont.	comments on importance of composting				wrote in follow-up to MOE presentation
11 names on petition						sent M. Boyer's letter (Thunder Bay)
G.G. Parker Proctor & Gamble	Toronto, Ontario	strong support for MOE education program; support strong central- ized com- posting needs fund	caution against deposit systems; support "beneficiary-pay" concept	caution against regulation to achieve targets	support EFW; should be part of waste management options	overall support of document with a number of specific suggestions/ concerns

DISCUSSION PAPER RESPONSE LETTER LOG (RUNNING TALLY OF COMMENTS)

		COMMENTS (PRIMARY/SECONDARY)				
AUTHOR/ ASSOCIATION	ADDRESS	3Rs	FINANCIAL SUSTAINABILITY	PLANNING	TREATMENT DISPOSAL	OTHER
Nigel Bellichamber Clerk - Administrator	County of Huron	Province should play greater role in reduction & recycling: increase requirements for reusable and returnable containers, minimize packaging, provide markets	Province should fund municipalities at 50% on ongoing basis for re- cycling programs	Province should not require WMMP by municipalities; Reform EA process to shorten time, reduce cost.		
Pat Crimmins Deputy Clerk	Regional Municipality of Halton	Develop policies in support of all Rs, including composting, incineration of non-recyclables.		Amend EA Act to speed up process; Legislate packaging requirements (encourage reusables, limit disposables, etc.)	MOE should prepare detailed plan for municipalities on how to reach 25/50% targets, Develop policy & legislation for HHW collection; consult municipalities to develop legislation placing responsibility of wastes on producers of goods & services	

APPENDIX C
Newspaper Reporting
of the
Public Consultation Program

Date: July 12, 1990

The Ottawa Sun, Wednesday, July 11, 1990

City eyes trash fee plan

By BRIGITTE AUDET
Ottawa Sun

Your trash could be worth big bucks — to the city that is — if a proposal to charge residents a collection fee per garbage bag is enacted, an alderman said yesterday.

Alta Vista Ald. Darrel Kent said a user-fee would encourage people to recycle more and to stop buying over-packaged goods.

He suggested a 50¢ fee per garbage bag last fall. Ottawa Mayor Jim Durrell has since announced the city is studying the idea, which could be brought in this spring.

"People will be more encouraged now, especially when experts in Toronto are recommending this," he said.

Reduce waste

The Ontario Environment Ministry announced Monday it hopes to reduce the amount of waste burned or buried by encouraging municipalities to charge consumers directly for garbage disposal.

Kent called the proposal "heartening." He said when he made a similar suggestion three years ago, the idea was "blasted out of the ballpark."

But he said the city has to provide alternatives to throwing things out such as easy access to recycling and composting, before it can charge people for the amount of garbage they dispose of.

Kent said a recycling program in apartment buildings would have to be started first.

But Ottawa Waste Management co-ordinator Duncan Bury said a user fee plan would require major changes at the administrative level, and he's not sure such a plan would reduce the amount of waste generated in the city.

Tipping fees — the cost of dumping waste into the site per tonne — are expected to rise from \$43 to \$70 in Jan. 1991.

Toronto Sun

They'd charge you for trash

By CLAIRE RICKLEY
Queen's Park Bureau

Householders should directly pay the cost of disposing of their garbage, says an environment ministry policy paper released yesterday.

People could be required to buy their garbage bags from their local municipality, pay a fee for every bag put out for collection or face a penalty if their trash exceeds a set amount, the ministry suggests.

Tax credits could go to households that generate less trash.

Canadians produce 25% more trash per person than they did 10 years ago and more garbage — 1.7 kilograms a day — than nine other nations including Britain and the U.S., the ministry says.

The paper, which is open for public discussion until Halloween, also says too few municipalities charge enough in "tipping" fees to dump waste in their landfill sites.

Date: July 11, 1990

THE OTTAWA CITIZEN • TUESDAY, JULY 10, 1990

Canada

Ontario suggests charging fee per bag of garbage

By Laura Eggertson
The Canadian Press

The Ontario Environment Ministry suggested Monday that businesses and consumers pay a set amount for each bag of garbage left for collection.

The pay-per-bag suggestion is one of several in a discussion paper presented Monday for six months of public consultation. Garbage collectors would count the number of bags left at the curb — and ring up a fee for each.

The ministry wants to hear from as many members of the public as possible before Environment Minister Jim Bradley moves



Bradley
Consultations

to recover from consumers the full cost of getting rid of garbage.

He would do that through regulations, legislation or suggestions to municipalities.

In 1987, Ontario's nine million residents produced 10 million tonnes of rubbish. In the next two years, 160 landfill sites will run out of space.

To reach Bradley's goal of diverting 50 per cent of garbage from being buried or incinerated by the year 2000, consumers need to connect what they produce with what they pay for.

Other ways of bringing that home include charging consumers directly through utility bills, or by levying a special fee if people exceed a certain weight or volume of garbage.

Or municipalities could choose to reward taxpayers with a tax credit if they throw out less garbage than their neighbors.

"The direct pricing schemes are

tossed up for discussion," ministry spokesman Dennis Onn said. "None of them have been implemented in Ontario or Canada. This is a new idea."

The town of Cobourg, about 100 kilometres east of Toronto, has drafted a proposal to charge residents for the number of garbage bags they toss out in their weekly collection.

They'd like the ministry to recognize their community as a pilot project, said chief administrative officer Bryan Baxter.

In November, Ottawa Mayor Jim Durrell said city staff was studying a fee for garbage pickup, following Ald. Darrel Kent's suggestion of a 50-cent-a-bag charge. The charge would replace the portion of the tax bill that now goes toward garbage collection.

"We don't think that the municipalities are going to balk at this," Onn said.

(With files from Citizen staff)

Ontario garbage plan not all rubbish — Merrill Behm

Merrill Behm says Ontario's waste management plan doesn't go far enough.

The chairman of the Pembroke and Area Waste Management Committee was reacting to report released Monday that suggests consumers, business, industries and institutions should start paying for the full cost of getting rid of garbage.

Mr. Behm said he hasn't read the entire report but "of what I have read I can say that I agree with some of it but more can be done."

He said there isn't any mention in the report about the soft drink industry.

"We keep hearing how great that industry's contribution to waste management is but in fact it

doesn't go far enough," he said. "The government should be telling soft drink producers to have a deposit for cans, the same way they have for bottles. That would help consumers become more aware of the need to recycle."

The fee for garbage pickup is just one of several proposals the ministry has put into its report into which it is seeking public input over the next six months.

By October, the ministry wants to have heard from as many members of the public as possible so that Environment Minister Jim Bradley can take action on his proposals — either through regulations, legislation or suggestions to municipalities.

In 1987, Ontario's nine million residents produced 10 million tonnes of rubbish. In the next two years, 160 landfill sites will run out of space to hold it all.

"We all have to be serious about waste management," ministry spokesman Dennis Onn said in an interview. "We're all stakeholders in the future of the system."

To reach Bradley's goal of diverting 50 per cent of garbage from being buried or incinerated by the year 2000, consumers need to connect what they produce with what they pay for, the ministry says.

Other ways of bringing that home include charging consumers directly through utility bills, or by levying a special fee if people exceed a preset weight or volume of garbage.

Or municipalities could choose to reward taxpayers with a tax credit if they throw out less garbage than their neighbors.

"The direct pricing schemes are tossed up for discussion," Onn said. "None of them have been implemented in Ontario or Canada. This is a new idea."

Cobourg, population 13,000, is at the forefront of the trend. The tree-lined town about 100 kilometres east of Toronto has drafted a proposal to charge residents for the number of garbage bags they toss out in their weekly collection.

They'd like the ministry to recognize their community as a pilot project, said chief administrative officer Bryan Barber.

In part, the town is motivated by a rapidly filling landfill site, scheduled to close in August. Industries and businesses are already forced to truck their waste to nearby Napanee, where they pay \$100 per tonne to dispose of it.

LIMIT BAGS?

Cutting household waste by limiting the number of bags one can place curbside is the next possibility.

"One of our options is to charge a fee for all bags or containers," Barber said in a telephone interview.

Another is to charge a fee — perhaps \$1.25 a bag — for each bag of garbage collected above a three-bag limit, said one member of the town's staff.

Ontario proposes tough stance to curb mountains of garbage

By Catherine Thompson
Record staff

TORONTO — Tough new measures to deal with the mounds of garbage overflowing in dumps across the province are being considered by the Ministry of the Environment.

Waste controls in Ontario are inadequate, the growth of garbage in the province is uncontrolled and there are no economic incentives to change bad garbage habits, says a report released Monday by the environment ministry.

In a province where more than one tonne of garbage was produced for every person in 1987, and where some 160 dumps have less than two years of approved capacity left, something needs to be done, the report concludes.

And it invites the public to offer suggestions by the end of October.

Residents in Waterloo Region may be pleased to note the situation isn't as bad here as in the rest of the province.

Roman Martiuk, director of Waterloo Region's solid waste operations, said the ministry report would make little difference locally. He said two years ago the region forecast that 36 per cent of garbage would be diverted

"We're very much a trend-setter within the province and other areas."

Roman Martiuk



away from landfills by 1994, through its recycling and awareness programs.

"We're very much a trend-setter within the province and other areas," he said in an interview Monday night. "They are in fact working to catch up with us."

Regional council is considering banning corrugated cardboard from its two dumps starting in 1991, a move that could account for as much as 15 per cent of the 36 per cent diversion goal.

Some of the solutions proposed in the 40-page discussion paper include tough new regulations and increased

See Garbage—Page A2

Garbage from Page A1

participation by the public, industry and all levels of government.

The proposals are based on four principles: recycling, re-using and reducing some of the garbage now entering dumps, tightening standards for running and designing landfill sites, forcing garbage producers to pay the full costs of waste disposal, and speeding the approval process for new dumps and other waste facilities.

The report's suggestions include:

☐ dumping fees that vary according to the type of garbage brought to a dump, for example, charging more for recyclables.

☐ charging households according to the amount of their garbage.

☐ expanding the blue box recycling programs to more apartments and rural areas, and to include mixed plastics and cardboard.

☐ encouraging companies to do waste audits, to determine how cuts could be made in waste output.

☐ improved public education programs to encourage businesses,

schools and homes to reduce waste.

Last year, the ministry announced tough new targets to reduce garbage going into dumps: a 25 per cent reduction by 1992, and a 50 per cent cut by the year 2000.

If those targets aren't met through the voluntary efforts of industries, municipalities and individuals, the report suggests the ministry increase its powers to withhold operating permits from dumps that don't encourage recycling, re-use and waste reduction, or to require newspapers to contain a minimum amount of recycled paper.

The report also suggests better standards for landfills, standards that take into account the size of the dump and how close it is to populated or environmentally sensitive areas, and that set out the requirements for buffer zones, leachate control, groundwater tests, methane gas control and other ways of limiting problems that come from buried garbage.

Sudbury Star July 17/90

Sudbury may pay dearly for getting rid of garbage

It appears local politicians don't like the idea of charging businesses, industries, institutions and homeowners the full cost of getting rid of garbage.

But it's an idea the Ontario Environment Ministry is pushing.

"I don't know if we're ready for that," said regional chairman Tom Davies. "It's always great to have ideas but are they are going to collect them?"

"People are paying for the full cost of garbage collection in taxes already," added Ward 2 Ald. Maurice Lamoureux, the city's deputy mayor.

Lamoureux said such charges might be fair for large garbage producers, such as industry and business, but not for homeowners.

"I'm not familiar with the proposal," said Rayside-Balfour Mayor Lionel Lalonde. "This would be something like tipping fees for residential property owners. I'm not sure I like it."

In the Sudbury area, the regional municipality has the responsibility for getting rid of garbage at its six landfill sites. Within five years, the region's costs of annually disposing 130,000 tonnes of garbage is projected to rise from less than \$1 million a year to \$5 million, in part because of programs such as curbside recycling, or blue box.

The region's seven area municipalities (the city, Valley East, Capreol, Rayside-Balfour, Oranip Falls, Warden and Nickel Centre) have the job of collecting the garbage.

Currently, garbage collection costs are paid by municipal and provincial taxpayers. The region also charges tipping fees, starting at \$20 a ton, at its landfill sites. The fees don't apply to homeowners.

But in a discussion paper released this week, the Ontario Environment Ministry proposed that businesses,

industries, institutions and consumers should start paying the full cost of getting rid of garbage.

Get ready for garbage collectors to count the number of bags you're dropping at the curb — and ring up a fee for each, the report said.

That's just one of the proposals the ministry has drafted and presented for six months of public discussion.

By October, if a ministry wants to have heard from as many members of the public as possible so that Environment Minister Jim Bradley can take action on his proposals — either through regulations, legislation or suggestions to municipalities.

The Environment Ministry wants consumers to start connecting waste with the cost of disposal.

In 1987, Ontario's nine million residents produced 19 million tonnes of rubbish. In the next two years, 160 landfill sites will run out of space to hold it all.

In the Sudbury region, three of its landfill sites are close to being filled and two others need millions of dollars in repairs to stop garbage from leaching to nearby waterbodies.

"We all have to be serious about waste management," ministry spokesman Dennis Oan said in an interview with Canadian Press. "We're all stakeholders in the future of the system."

To reach Bradley's goal of diverting 39 per cent of garbage from being buried or incinerated by the year 2000, consumers need to connect what they produce with what they pay for, the minister says.

Other ways of bringing that home include charging consumers directly through utility bills, or by levying a special fee if people exceed a pre-set weight or volume of garbage.



MOUND OF TRASH... A stack of trash awaits pickup on a sidewalk along Lasalle Boulevard Monday afternoon. The Ontario Environment Ministry wants to charge businesses, industries, institutions and homeowners the full cost of getting rid of garbage.

—JANIS WEBSTER / THE SUDBURY STAR

Date: August 31, 1990

Cash to put out the trash

THE SPECTATOR Aug. 25/90

User fee charges for garbage are being considered

Municipalities are exploring user-pay garbage collection to cut costs and reduce the household waste flow. Spectator editorial writer Gord McNulty examines what's happening at the curbside.

By GORD McNULTY

USER FEES for garbage collection are a potential new weapon in the struggle to control waste.

Various systems in which homeowners pay for garbage pick-up according to how much they produce have been implemented — with some success — by various municipalities in the United States.

The 'user pay' concept is now being studied by Hamilton-Wentworth and the Ontario environment ministry, which floated the idea in a recent discussion paper on sustainable waste management. The controversial idea is also gaining support among environmentalists.

A user-pay policy could involve a charge for each bag of garbage, collecting only bags that have stickers, special charges for homeowners who exceed more than a given amount of garbage credits for people who generate less waste, or combinations of those ideas.

User-pay systems are touted by supporters as a necessary step in cutting the waste stream. If a visible price is attached to garbage, the theory goes, households will have an incentive to reduce waste. People who cut back will save money, while those who don't will be penalized.

There isn't any direct incentive to cut back on household waste in the curbside blue box recycling program. Blue boxes currently recycle about 16 per cent of the residential waste stream in communities which have the service.

Landfill

Even with improvements, blue box recycling is clearly only part of the answer in achieving the provincial goal of diverting 25 per cent of all waste from landfills or incinerators by 1992, and 50 per cent by the year 2000.

Whatever the advantages, user-pay systems could well be more difficult for the public to accept than the innocuous blue boxes. The debate hinges mainly on costs, and whether user fees would be counter-productive. Opponents fear the system would encourage more illegal dumping of garbage on the part of some people who will try to avoid paying.

The notion that taxpayers would pay twice for garbage collection in a user pay approach is probably the greatest obstacle. In Ottawa, the idea was dismissed out of hand by politicians and the media because of the perception it would mean double taxation — a criticism that proponents reject.

Supporters of user fees agree that to win public acceptance, the concept has to be seen as a substitute for the taxes that people already pay for garbage collection and disposal — not an extra charge.

A user-pay approach, proponents say, would be more equitable than the status quo of paying for garbage collection through general taxation. Under the traditional 'take away everything' approach, people who conserve and put out one or two bags weekly pay the same as people who put out 10.

Recycle

A user-pay system will ultimately sink or swim on a municipality's success in selling the virtues of its efficiency. The expectation that people who discard less would pay less is cited as a key selling point in the user-fee approach.

Advocates say user pay moves the battle to control waste further along the '3Rs' of reduce, reuse and recycle. People will think twice about buying unnecessary or overpackaged goods. Public pressure will increase on governments at all levels to order that more products be recyclable and reusable.

Hamilton-Wentworth officials expect to have a report on the concept within six months. Val Terluk, the region's solid waste manager, and Phil Jensen, waste reduction co-ordinator, both say citizens will need to be assured they aren't paying twice for garbage collection under any user pay plan.

A report on user-pay systems in the U.S. prepared for the Hamilton-based Recycling Advisory Committee (RAC), concludes that people are paying less for collection and disposal of garbage under a user-pay policy than before.

Although residents in some cases were initially upset with paying fees, strong promotional campaigns showing how householders could save money overcame the opposition.

The RAC study acknowledged

user-pay programs can result in a backlash of illegal dumping, over-stuffing of bags or containers, open burning, and other troubles. But it concluded the problems could be managed with effective public education and some enforcement.

A first step in selling the idea, the RAC advises, begins with informing residents as to how much of their tax dollars are already spent on garbage collection and disposal.

Unless this hitherto invisible cost is itemized on each taxpayer's bill, it will be difficult to show how people can save with a user-pay system.

Waste management costs for municipalities that have the data, outlined in the RAC study include \$113.22 per household annually in Mississauga, \$90.60 in Metro Toronto, and \$47.15 in Ottawa.

The RAC study estimates the cost of collection, per bag, works out to 87 cents in Toronto and 33 cents in Ottawa. But it notes that bags would likely cost more in any user-pay system.

That's because the figures cover operating expenses only. They don't include the full capital costs of '3Rs' programs, waste management and environmental planning.

landfill site acquisitions and closings, and the like.

The RAC report stresses that if people are to be asked to buy special garbage bags, they have to be told what it now costs them in taxes to collect each and every bag. Those taxes would be replaced with the new system.

Politicians will have to make sure industries likewise pay user fees that reflect the full cost of handling waste. Although municipalities generally charge tipping fees at landfills and other facilities based on weight or volume, the environment ministry says those fees vary widely — from non-existent to almost \$100 per tonne.

The ministry wants municipalities to determine the full costs of waste management and disposal, then set realistic tipping fees that will cover those costs. In the process, the expense would be shifted from property taxes.

The RAC study found that successful user-pay systems not only help taxpayers, they can help municipalities save money too — especially where a financially self-supporting waste management agency or utility has been established to operate the service.

Seattle, Washington, has a self-supporting user-pay system based on charging householders for the number of garbage cans they set out. Managed by the Seattle Solid Waste Utility, the system charges householders \$13.75 a month for a

Date: July 19, 1990

Page:

THE OSHAWA TIMES, Saturday, July 14, 1990

Editor: Gerry Rose — 723-3474

Province seeking input over waste management plan

By Christy Chase
Oshawa Times staff

Less garbage, higher costs for disposing of it and tougher landfill standards are among the options being put forward by the province in a discussion paper.

Towards A Sustainable Waste Management System, just released by the environment ministry, discusses how the province can promote innovative, sustainable waste management practices in Ontario. The province is looking for comments from the public on the paper and the ideas within it.

One of the major options stresses the need to reduce reliance on waste disposal and instead concentrating on the 3 Rs — reduction, re-use and recycling. Expansion such practices would mean a significant drop in garbage to be disposed of and save new resources, the paper states.

Another concept is that of "full cost recovery" which would require waste producers to pay full costs of waste management and disposal. This would provide the necessary funds to set up, operate, close down and replace facilities which providing incentive for



BRADLEY

waste reduction, the paper says.

New regulations regarding waste management facilities, such as dumps, are proposed to further protect the environment.

Educational programs to inform industry, consumers and students about waste reductions are also suggested.

"The ideas contained in this paper will help us achieve our goals of diverting 25 per cent of all wastes into productive uses and away from landfill and incineration by 1992 and 50 per cent by the year 2000," said Environment Minister Jim Bradley.

Meanwhile the ministry announced it is approved funding for more than 116,000 home composters throughout the province to help reduce waste. Nearly \$3 million has been spent in the last year to help 44 communities provide home composters to residents.

Kitchen and yard wastes, which can go into the composters, make up one-third of household waste going to dumps.

The ministry is looking for people's comments on the waste management paper and will send out members of the waste management branch to make group presentations on the paper, copies of which may be obtained by aliling the public information centre at 416-323-4321 in Toronto.

Group presentation can be arranged from July to Oct. 31 by calling (416) 323-5200.

Region decides to continue composting

Durham Region council has decided to continue with its central composting study.

Council approved retaining R. Cave and Associates to carry out the second phase of the study the firm started last year. The cost will be more than \$181,000.

This year's work includes the design and choice of a pilot project facility for construction in 1991 and the establishment of a central composting liaison committee to ensure public input into the project.

A central composting facility will allow people who live in apartments and others who have no way to compost their own materials to get involved. The facility would also be aimed at restaurants and businesses with their own cafeterias.

Organics make up a good percentage of garbage heading for landfill and are a major cause of odors, gas and leachate in dumps and attract scavenging birds. By composting them, there will be less garbage down into dumps and fewer problems at the sites.

During the first stage of the pilot program, organics would be collected from one area municipality, yet to be chosen. Once the program was refined, it would be expanded across Durham with more facilities built as needed.

Cave and Associates study last year identified markets for finished compost including bagged compost for home gardening, municipal and private contractors' landscaping, sod farms, golf courses and reclamation of quarries and landfills. The firm also talked with three major organics generators in Durham — General Motors, Knob Hill Farms and Durham College.

Special bags for curbside collection of food wastes are recommended by the firm.

Composting catching on, province says

By David Israelson
TORONTO STAR

More and more people in Ontario are going to catch on to recycling their kitchen and yard waste into home composting bins, Ontario's environment minister says.

Jim Bradley said yesterday the province has given already \$3 million to municipalities for backyard composters — plastic bins that turn table scraps into fertilizer for the garden.

Now the program will likely expand because the government hopes to reduce the amount of garbage in Ontario by 25 per cent within two years and a further 25 per cent by the end of the decade.

"Composting is an important tool to help us meet our goal," Bradley said in a statement. It can "reduce the volume of garbage now sent to landfill sites or incineration."

To compost, householders put yard clippings and leftover food (except meat) into the plastic bins, where it "cooks" over several weeks into nutrient-rich material that can be spread over the garden.

The provincial money will help 44 municipalities offer cut-rate prices for the bins. They retail for as much as \$125 but have been sold by Metro for less than \$20.

The province's program has already provided more than 116,000 home composters across Ontario.

Metro and other southern Ontario municipalities are running out of landfill space and incineration is opposed by many environmentalists, who believe the fumes are a health hazard.

The minister's statement yesterday came as he released a new discussion paper on waste reduction that says the amount of Ontario's garbage could be decreased by charging people more to get rid of it.

The new report says Ontario should consider:

- ☐ Full recovery of the cost of disposing garbage — a cost hidden in a maze of subsidies and grants from one level of government to another.

- ☐ More reliance on reducing the amount of waste so that less disposal will be needed.

NATIONAL NEWS

Pollution Probe rejects ministry's proposal

Strategy paper on waste collection should be recycled, critics say

BY RICHARD MACKIE
Queen's Park Bureau

TORONTO — Pollution Probe is calling the Ontario Environment Ministry's proposal to reduce garbage by charging for waste collected at households and by charging more for garbage going to landfill sites "pathetic".

Ministry officials have also proposed that companies producing potentially dangerous wastes be required to collect them after they have been used by consumers.

The new strategy on waste management would ensure that "waste

generators and beneficiaries of waste management services pay the 'full cost' of these services."

But Pollution Probe spokesman Dave McRobert said Ontario's discussion paper should have been recycled before it was distributed. "This discussion paper epitomizes the pathetic inaction of this provincial government on our waste crisis."

The only thing this paper will sustain is our massive levels of garbage production."

At present, the prices charged for getting rid of garbage generally are far below the true costs of disposing of it, said Hardy Wong, director

of the ministry's waste management branch.

For example, many municipalities in Ontario underestimate the cost of operating, closing-out and maintaining landfills and other waste management and disposal facilities, the strategy paper says.

The strategy paper proposes tipping fee schedules for private haulers that would vary according to the type of waste brought to a municipal dump, including higher charges for recyclable material.

Among the options the paper suggests are:

- Charging for each bag collected.

- Collecting only bags that are purchased from a municipal waste management authority.

- Charging householders directly through utility bills.

- Charging a special fee if a household discards more than a given amount of solid waste per month or annual quarter.

- Providing a tax credit if the waste generated is less than a given amount.

Mr. Wong stressed that the ministry hopes that consumers, faced with these higher costs, will seriously consider how best to limit creation of waste.

GARBAGE

Homeowners could face charges for each bag

It's just one of the proposals the environment ministry is presenting for six months of public discussion.

By Laura Eggertson
Canadian Press

What do garbage bags and dollar bills have in common?

They're both green — and Ontario's environment ministry wants consumers to start connecting them.

In a discussion paper released Monday, the ministry proposes that businesses, industries, institutions and consumers should start paying the full cost of getting rid of garbage.

Get ready for garbage collectors to count the number of bags you're dropping at the curb — and ring up a fee for each.

That's just one of the proposals the ministry has drafted and presented for six months of public discussion.

By October, the ministry wants to have heard from as many members of the public as possible so Environment Minister Jim Bradley can take action on his proposals — either through regulations, legislation or suggestions to municipalities.

In 1987, Ontario's nine million resi-

dents produced 10 million tonnes (11 million tons) of rubbish. In the next two years, 160 landfill sites will run out of space to hold it all.

"We all have to be serious about waste management," ministry spokesman Dennis Onn said. "We're all stakeholders in the future of the system."

To reach Bradley's goal of diverting 50 per cent of garbage from being buried or incinerated by the year 2000, consumers need to connect what they produce with what they pay for, the ministry says.

Other ways of bringing that home include charging consumers directly through utility bills, or by levying a special fee if people exceed a preset weight or volume of garbage.

Or municipalities could choose to reward taxpayers with a tax credit if they throw out less garbage than their neighbors.

"The direct pricing schemes are tossed up for discussion," Onn said. "None of them have been implemented in Ontario or Canada. This is a new idea."



Cobourg, population 13,000, is at the forefront of the trend.

The tree-lined town about 100 kilometres east of Toronto has drafted a proposal to charge residents for the number of garbage bags they toss out in their weekly collection.

PILOT PROJECT: They'd like the ministry to recognize their community as a pilot project, said chief administrative officer Bryan Baxter.

In part, the town is motivated by a rapidly filling landfill site, scheduled to close in August. Industries and businesses are already forced to truck their waste to nearby Napanee, where they pay \$100 per tonne to dispose of it.

Cutting household waste by limiting the number of bags one can place curbside is the next possibility.

"One of our options is to charge a fee for all bags or containers," Baxter said in a telephone interview.

The town wants to "get the message across to the users of the service to reduce the quantity (of garbage) and to preserve and extend the life of our landfill site," Baxter said.

The ministry wants more municipalities to look at Napanee's option of charging per tonne of garbage they accept from industries.

"We don't think that the municipalities are going to balk at this," Onn said.

APPENDIX D

July 9, 1990 News Release:

**"Expanded 3Rs,
Full Cost Accounting
Tougher Standards Seen
As Keys to Sustainable
Waste Management"**



news release

Ministry
of the
Environment

July 9, 1990

FOR FURTHER INFORMATION:

Dennis Onn, (416) 323-5092
Waste Management Branch

Jonathan Greenbaum, (416) 323-4613
Communications Branch

**EXPANDED 3Rs, FULL-COST ACCOUNTING, TOUGHER STANDARDS
SEEN AS KEYS TO SUSTAINABLE WASTE MANAGEMENT**

Expanded 3Rs (reduction, reuse and recycling) efforts, tagging waste generators with the full cost of waste management, and tougher landfill standards, are among the options being put forward in a report released today by the Ontario Ministry of the Environment.

Some of the central proposals contained in the paper entitled Towards A Sustainable Waste Management System include:

- The need to reduce our reliance on waste disposal through the promotion of the 3Rs (reduce, reuse and recycle). The expansion of such practices would bring about a significant drop in the amount of waste requiring disposal, the paper says. This would cut unnecessary consumption of new resources.

- The principle of "full cost recovery", by which waste producers would be obliged to pay for the full costs of waste management and disposal. A waste management system based on this principle would provide the revenues needed to establish, operate, close out and replace facilities, while providing incentive for waste reduction.
- Improved waste management facility standards to further protect the environment. New regulations are proposed to upgrade the design and operation of waste management facilities.
- Programs to inform industry, consumers and students about how to make decisions that contribute to a reduction of the waste generated in the province.

"The ideas contained in this paper will help us achieve our goal of diverting 25 per cent of all wastes into productive uses and away from landfill and incineration by 1992, and 50 per cent by the year 2000," Mr. Bradley said.

The discussion paper provides an overview of current ministry programs in the waste management field and discusses how the province can promote innovative, sustainable waste management practices in Ontario.

The ministry is seeking comments from the public on the ideas in the paper, and will use this to determine future waste management policy. Members of the ministry's Waste Management Branch will make group presentations, note comments and answer questions about the discussion paper. Group presentations may be arranged from July to October 31, 1990, by calling the Waste Management Branch in Toronto at (416) 323-5200.

Copies of the paper may be obtained by calling the Public Information Centre at (416) 323-4321 in Toronto.

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Version française disponible

...NR#286/90 3/3

APPENDIX E

**Schedule of
Public Presentations
by Waste Management
Branch Staff**

SCHEDULE OF PUBLIC PRESENTATIONS

BY

WASTE MANAGEMENT BRANCH STAFF

PUBLIC CONSULTATION ON THE FUTURE OF WASTE MANAGEMENT

IN ONTARIO

"TOWARDS A SUSTAINABLE WASTE MANAGEMENT SYSTEM"

<u>DATE/TIME</u>	<u>LOCATION</u>	<u>AUDIENCE</u>
Aug. 23 @ 11:00 a.m.	Erindale College	national seminar of teacher's association (KEY) Knowledge of Environment for Youth
Sept. 4 @ 7:30 a.m.	Ramada Inn 185 Yorkland Blvd., Toronto	Rotary Club of Toronto-Armour Heights
Sept. 13 @ 9:00 a.m.	Avis International Hotel 6090 Dixie Road	Price Daxion, Div. of Abitibi Price Inc. - sales and management team
Sept. 13 @ 12:00 noon	AMO Office 100 University Ave, Toronto	AMO Waste Management Committee
Sept. 14 @ 10:45 a.m.	Red Dog Inn Fort Frances	Northwestern Ontario Planning Conference
Sept. 18 @ 7:00 p.m.	Toronto City Hall Committe Room 2	"It's Not Garbage", Coalition of community, labour, business and environmental groups
Sept. 21 @ 9:30 a.m.	439 University Avenue 11th Floor, Toronto	Metro Works Department
Sept. 24 @ 8:00 a.m.	Royal York Hotel Ballroom, Toronto	Recycling Council of Ontario, Breakfast Forum - "Sharing the Costs of Waste Management"
Sept. 26 @ 11:00 a.m.	Ontario Hydro Building 700 University Avenue, Toronto	Conservation Council of Ontario
Sept. 26 @ 12:00 noon	Waterloo Motor Inn Waterloo	Industrial Accident Prevention Association, Grand Valley Division
Sept. 26 @ 7:00 p.m.	City Hall, 426 Brant Street, Burlington	Burlington's Sustainable Development Committee

"TOWARDS A SUSTAINABLE WASTE MANAGEMENT SYSTEM" (CONT'D)

<u>DATE/TIME</u>	<u>LOCATION</u>	<u>AUDIENCE</u>
Sept. 27 @ 7:00 p.m.	Ciociaro Club Windsor	Open public forum promoted by the Public Advisory Comm., Essex- Windsor Waste Management Committee
Oct. 1 @ 10:30 a.m.	40 St. Clair Ave. W. Toronto	Premier's Council on Health Strategy, Healthy Ecosystems Sub-committee
Oct. 1 @ 9:30 p.m.	Public Library Sudbury	Open public forum (panel discussion) by the Sudbury Round Table on Health, Economy and the Environment
Oct. 3 @ 7:30 p.m.	Council Chambers North Bay	Open public forum promoted by the Waste Resources Advisory Committee, North Bay Town Council
Oct. 5 @ 12:00 noon	2700 Matheson Blvd. East Tower, 8th Floor Mississauga	WMI Waste Management of Canada
Oct. 10 @ 11:00 a.m.	160 Bloor Street East	staff from Unilever Inc./Thomas J. Lipton
Oct. 11 @ 9:00 a.m.	Canadian Football Hall of Fame Main Auditorium 58 Jackson St. West Hamilton	Region of Hamilton- Wentworth, Waste Management Coordinating Committee
Oct. 11 @ 1:30 p.m.	Dow Chemical Etobicoke	executive staff of Dow Chemical
Oct. 15 @ 11:00 a.m.	Marsland Centre Waterloo	Environmental Engineering staff of the Regional Municipality of Waterloo
Oct. 18 @ 11:00 a.m.	McCarthy-Tetrault Toronto Dominion Bank Tower, 47th Floor, Toronto	Executive groups of Ontario Waste Management Association (OWMA) and the Government Refuse Disposal and Collection Association (GRDCA)

"TOWARDS A SUSTAINABLE WASTE MANAGEMENT SYSTEM" (CONT'D)

<u>DATE/TIME</u>	<u>LOCATION</u>	<u>AUDIENCE</u>
Oct. 23 @ 10:00 a.m.	Ontario Research Foundation, Sheridan Park Research Community, Mississauga	Staff of the Ontario Waste Exchange
Oct. 24 @ 12:00 p.m.	University of Toronto 1265 Military Trail Scarborough	Students taking part in the University's Environment Awareness Week (cancelled because no students attended)
Oct. 25 @ 9:00 a.m.	588 Booth Street Department of Energy, Mines and Resources Ottawa	staff from the Departments of Energy, Mines and Resources and Environment
Oct. 29 @ 10:00 a.m.	15 Gervais Drive, Toronto	Ontario Federation of Labour (OFL) and Canadian Union of Public Employee's (CUPE)
Oct. 29 @ 1:00 p.m.	Airport Venture Inn Toronto	municipal officials attending a Waste Management Master Planning (WMMP) Workshop
Oct. 30 @ 9:30 a.m.	Municipal office, Thorold	public works officials from the Niagara Region
Oct. 31 @ 2:00 p.m.	OMMRI office, Toronto	staff of OMMRI - Ontario Multi-Material Recycling Inc.
Nov. 1 @ 7:00 p.m.	Lakehead University Thunder Bay	open public forum for citizens of the Thunder Bay area and the Lakeland University "Echo" association - Environmental Choice
Nov. 6 @ 1:00 p.m.	20 Wildwood Road Georgetown	executive members of the Association of Municipal Recycling Coordinators
Nov. 14 @ 11:00 a.m.	Skyline Hotel Toronto	Canadian Manufacturers Association

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SEMINAR ON:

**IMPACT OF NEW AND PROPOSED
EFFLUENT REGULATIONS
ON MUNICIPAL AND INDUSTRIAL
WASTEWATER TREATMENT**

NOVEMBER 9, 1988

PROCEEDINGS

ORGANIZED BY:

**POLLUTION CONTROL ASSOCIATION
OF ONTARIO**

ONTARIO MINISTRY OF THE ENVIRONMENT

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Impact of new and proposed
effluent regulations on municipal
and industrial wastewater
treatment : proceedings of a

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IMPACT OF NEW AND PROPOSED EFFLUENT
REGULATIONS ON MUNICIPAL AND INDUSTRIAL
WASTEWATER TREATMENT

Proceedings of a seminar held
at the
Waterloo Inn, Waterloo, Ontario

NOVEMBER 9, 1988

sponsored and organized by:
POLLUTION CONTROL ASSOCIATION OF ONTARIO
and the
ONTARIO MINISTRY OF THE ENVIRONMENT

Seminar Co-Chairmen: Ralph Luhowy,
Region of Waterloo
Steve McMinn,
M.M. Dillon Limited

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ABSTRACT ONLY

MINISTRY OF THE ENVIRONMENT
POLICY UPDATE

by: Nars Borodczak,
Ontario Ministry of the
Environment

An update was presented of Ontario Ministry of the Environment policy on industrial and municipal wastewater regulations, with emphasis on the Municipal Industrial Strategy for Abatement (MISA) program. The schedule for industrial monitoring regulations and the expected timing for the municipal sector were outlined.

THE SOUTHWESTERN REGIONAL APPROACH
HOW TO DETERMINE CERTIFICATE OF APPROVAL NUMBERS

By: D. Huber ¹

Each Region of the Ministry of the Environment has a slightly different approach to determine criteria or numbers for Certificates of Approval. Presently, there is an effort under way by the Water Resources Branch in Toronto to try and standardize the approaches and requirements. This paper deals with the approach developed by the Southwestern Region. It is an evolutionary approach, which is still evolving, and is not a cookbook approach which says you must do this then that. It outlines a series of steps that the consultant can go through, with various options, to produce a report that will be acceptable to determine Certificate of Approval criteria by the Region.

This Region like the others has been accused of using many methods to determine Certificate of Approval criteria, e.g. throwing darts, rolling dice or just picking the numbers out of the air. This Ministry's new program MISA BAT-EA (Best Available Technology - Economically Achievable) will raise the minimum standard of treatment required for all major pollution contributing sectors. For the municipal sector, this was the requirement for at least primary treatment (settling for solids removal) and now MISA may raise the minimum treatment level to secondary treatment (settling plus biological oxidation). Wherever MISA takes us, the Certificates of Approval criteria may have to be more restrictive based on receiving stream impact studies. The surface water quality goal of this Ministry, as laid out in the "Blue Book" (Water Management Goals, Objectives and Implementation Procedures of the Ministry of the Environment Revised May 1984), is to ensure that the surface waters of the Province are of a quality that is satisfactory for aquatic life and recreation. This stresses the need to know as much as you can about the waste receiver.

To develop Certificate of Approval (C of A) criteria, one requires information on :local water quality conditions (e.g. the bacteriological, chemical, physical and biological), streamflow/currents, existing water uses along with existing or proposed raw waste strengths and waste flows. The more real data one has available, the easier it is for the consultant to do the job.

¹ Douglas M. Huber, Regional Hydrologist and Assoc.
Surface Water Evaluator, Southwestern Region, Ontario
Ministry of the Environment

The consultant should contact the Technical Support Group in the respective Region to obtain information on the stream-based water quality criteria. These values may be different for different rivers. For example; turbid rivers can handle more phosphorus than clear-flowing rivers and warm-water fishery streams require less dissolved oxygen than cold-water fishery streams. After you have informed them about your type of discharge and approximate volume, they may provide stream based water quality criteria that may include:

un-ionized ammonia	dissolved oxygen
total phosphorus	suspended solids
BOD5	total chlorine residual
hydrogen sulphide	various metals
E. coli/fecal coliform	phenols

These values will be used by the consultant to protect the aquatic life present in the receiver. Also any variation in criteria, summer to winter etc. should be provided at this time. The information from Technical Support must be up to date. An eight-year old memo on water quality is just not acceptable. If the project has been shelved or you have not dealt with Technical Support for over eighteen months about this project then get the information confirmed. There may be new water quality parameters of concern or changes in downstream water uses etc. Additional concerns or restrictions about the discharge should also be identified at this time. There may be seasonal restrictions because of low streamflows or fish spawning. The discharge must not be toxic and this point results in maximum concentrations for un-ionized ammonia, total chlorine residual and heavy metals just to name a few parameters. If the discharge goes to a lake, then information on minimum distance out from shore and water depth should also be provided. Be realistic about the time it takes to amass this information. Just don't walk into a Ministry Office and expect to leave with the required information in a matter of minutes or even hours.

The next step or while your waiting for data or the requested information to be forwarded , get familiar with the existing streamflow data for your discharge location. You may be lucky and have a continuous recording stream gauge at your location but the odds are against it. Determine if pro-rating is acceptable or if you can develop a correlation between daily spot measurements and daily flows at the continuous gauge. A new report dealing with techniques on how to estimate streamflow for ungauged streams from gauged streams will be available from the Water Resources Branch in Toronto during spring of 1989. This report may be of assistance or you may wish to use some other approach. Just explain the approach you want to use and get approval for it now. Also get your approach to

ranking and recurrence interval calculations confirmed be it Gumbel, Log Person etc.

Now that you are familiar with the streamflow data, which flows are you going to use? For a continuous year round discharge, we normally require the 7Q20 (minimum average seven-day streamflow with a 20 year reoccurrence interval) streamflow to be used. For seasonal discharges depending on stream sensitivity, we recommend either a minimum 1 in 10 monthly average or minimum 1 in 20 monthly average. Monthly 7Q10 (minimum average seven-day streamflow with a 10 year reoccurrence for that specific month) may be required for a continuous winter discharge with a drop of storage in the spring. Depending on the exact scenario, we have used minimum weekly flows with 10-year reoccurrence, worst year on record and NO DIRECT DISCHARGE at all. This may force the applicant into infiltration or spray irrigation. This Region also has a dry ditch policy where we allow a discharge from a tertiary (extended aeration, filtration, disinfection and multi point alum injection) treatment plant to a stream that seasonally goes dry. It is our philosophy that some water (nontoxic) in a ditch or stream is better than no water in the ditch or stream. It is up to the consultant to confirm the proposed approach is applicable for the discharge and always has the option of going out and collecting real streamflow data.

Knowledge of background water quality is just as important as knowing estimated streamflows. Upstream concentrations of total ammonia, temperature, pH, BOD5, suspended solids and total phosphorus are required to determine impact from the proposed discharge. If there is no water quality data available for your location you may have to estimate it from a nearby station or again collect your own. You should be aware of seasonal variation, the range of the parameter of concern and how the chemicals interact. Depending on the type of discharge, additional data on metals, phenols etc. may be required. Discuss the available data and explain the way you chose specific values to represent the water quality present in the stream under your discharge scenario.

From here one can quite easily work backwards from required stream concentrations to required discharge concentrations by mass balancing or modelling under many different discharge scenarios. If using modelling techniques, unless you have real data for the variables, keep the model simple. You might as well estimate the answer if you are going to estimate all the input parameters and variables. Again the approach is up to the consultant but an explanation of why this approach is as good as or better than another is required. This automatically leads to the type of treatment process required to meet the required discharge concentrations under different discharge timing options. The list of treatment process options may

included but not limited to: facultative lagoons, aerated lagoons, activated sludge, extended aeration, filters, Sutton concept (extended aeration plus polishing ponds), RBC's or a combination of the above. Storage requirements can be calculated along with discharge to streamflow scenarios using daily, weekly or monthly adjustments.

Preliminary cost estimates for the different processes and discharge schemes that provide acceptable effluent quality can then be worked out by the applicant. A preferred option listing treatment process, storage and discharge timing can then be forwarded for review. You may have noticed that the consultant or applicant has done most of the estimating or documenting of impact to this stage. It is very important that the consultant knows the rules prior to getting to this stage so they know what information will be required for the Certificate of Approval. Once we receive the report, the Ministry will review all the data supplied and approaches used to arrive at the preferred alternative. This should be a relatively simple job if the consultant has followed the recommended approach. Based on this review one of four options will be recommended:

- 1/ A conditional Certificate of Approval be issued where the system has a defined time frame to get into compliance. These are mainly used on innovative approaches where insufficient data is available to confirm the concept will work. If they are not in compliance by a set date, they must revert to a more conventional system.
- 2/ A fixed time frame Certificate of Approval be issued where the C of A expires on or before a certain date. This approach is used for staged expansions and allows us to force the completion of the following stages.
- 3/ A full Certificate of Approval be issued and this will not change until the average daily flows listed are exceeded or a major change in Ministry policy takes place.
- 4/ Rejection of the full report and the suggestion that the consultant start over again. This should not happen if the consultant has been in contact with this Ministry through all stages of the process.

For either of the first three options, effluent criteria for the proposed discharge will be developed by the Region based on both stream criteria and what the recommended treatment process should produce. This will confirm that whatever treatment process is recommended, it will be operated as efficiently as possible. The Certificate of Approval will include: information on the design (structures) along with recommended design values. These are suggested criteria that the treatment plant should try to achieve. It is nearly impossible to achieve monthly average total phosphorus concentrations of 1 mg/l if you only design for that level. Also, monthly average non-compliance criteria and single sample maximum

non-compliance criteria are given. This forces the treatment process to produce consistent results and not allow short-term discharges of toxic materials. It makes little sense to protect a stream from toxics "on average". Information on monitoring and reporting requirements is also given to document how the treatment system is operating. Rationale for the effluent limits are given along with discharge limits before the system must come up for review or expansion. Other requirements may be also added to the Certificate of Approval.

In summary, it is very simple to understand the need for good frequent communication between the applicant and the Regional Office of this Ministry. The obtaining of stream-based criteria upfront is necessary before any treatment process can be evaluated. Confirm your approaches as you go and there should be no misunderstanding at the time the report is submitted for a Certificate of Approval.

METAL FINISHING INDUSTRY POSITION

By: Kenneth Coulter, P.Eng.

Canadian Association of Metal Finishers

The Canadian Association of Metal Finishers has been in existence for three years and represents a group of companies in the metal finishing industry. It is comprised of 40 companies with a combined total of 3500 employees. Because it is new it is still growing. It limits its membership to companies who either have waste treatment facilities in place or are in the process of installing them.

Some of the members are quite large companies with only a portion of their operation in metal finishing, while the majority are specialists in metal finishing as a service to other industries. Most of these are referred to as job shops and are owner operated. Some companies employ as few as 10, while others employ 100's.

The processes of the industry include electroplating of various kinds, painting, hot dip galvanizing, electroless coatings, anodizing of aluminum and chemical conversion coatings. Many of these disparate processes are contained in the same facility.

These processes are indispensable to the automotive, aerospace, electronics, fasteners, furniture, electrical, appliances, agricultural implements, transportation, jewelry and recreational industries.

While the public awareness of the industry is mostly confined to the cosmetic aspects of its work, this represents only 15% of its activity. Of far greater importance is its value in providing corrosion protection, conductivity, paintability, solderability, etc.

The industry first became aware of its impact on the environment when companies were given incentives to locate in rural or semi rural areas of Ontario in the 1950's. In many of these areas the sewage treatment systems were non-existent or inadequate. As a result, many of these plants found themselves having to discharge directly to water bodies. The Ontario Water Resources Commission worked with them to try to overcome the problems, but the lack of knowledge and availability of operable waste treatment equipment caused many difficulties. Some companies gave up or moved, others struggled and kept trying until some degree of control was in place. Most of the industry, however, was located in municipalities with sewage treatment plants. Each municipality had a different way for dealing with the industry. Unless a company actually dissolved a pipeline, they largely left the industry alone in the 50's and 60's.

Even as late as the mid seventies, when Environment Canada arranged a seminar jointly with the American Electroplaters Society in Toronto, bringing some of the top people from Europe to show the best available technology at that time, none of the invited guests from municipalities came.

The preparation of the model by-law in 1975 did bring some effort toward enforcement from the municipalities but the degree of control exercised varied tremendously from region to region. The industry was aware, however, of the impending necessity to begin to practice more prevention of losses of potentially hazardous material to the sewer systems. Most companies

introduced various recovery systems into their processes and in general reduced losses to the sewers by 75-80% and introduced pH control in the majority of cases.

When the 1975 model by-law was put in place and inspection systems set up, these reduced levels of contaminants were found to be too high and treatment processes were introduced which destroyed cyanide, precipitated metals as the hydroxide and controlled spills and accidental losses. Recovery systems came on the market that not only limited discharge but recovered some materials for re-use. These included evaporators, De-ionization units, reverse osmosis and electrodialysis. Some worked, others that worked were not economical. Newer equipment, while more effective has become more expensive. Substitution for toxic materials such as cyanide is now universal where it can be applied. Metal hydroxide sludges which were originally disposed of with 97% water are now dewatered and sometimes dried to minimise volume. Pilot projects are underway to recycle nickel hydroxide, dried, and or fixed, through the refineries.

One of the greatest difficulties in acquiring good pollution control in-plant has been the difficulty of training suitable operating staff. It usually requires a higher technical skill to run a treatment system than the process it is serving. Environment Canada, recognizing this problem, recently set up courses for the training of management, supervisors and operators, in the design, installation and operation of environmental control equipment. These courses were prepared with the assistance of various members of CAMF who also have served effectively as presenters.

In spite of these efforts we have yet to reach the level of control where we are perfect 24 hours per day, 7 days a week.

So far I have refrained from mentioning some of the companies in the industry with a much higher profile than the members of CAMF. The media have given them a great deal of coverage over their various legal battles with municipal authorities. They are not members of our association, nor would we welcome them at the present time into our membership.

There is a considerable spirit of co-operation within the Association, even amongst competitors when it comes to helping solve pollution control problems. The association will do everything it can to help a member who, while trying to meet the regulations finds himself in difficulty with an anomaly in his system. Similarly, the Association is far more interested in working with the municipalities and Environment Ontario in protecting our waterways and treatment systems than being antagonists in legal actions. Far more will be accomplished faster following the route of mutual assistance.

With that brief history of the industry out of the way, I would like to address our response to the recently published model sewer use by-law and the proposed MISA program of the Environment Ontario.

The model sewer use by-law, recently made available to Ontario municipalities, is, we understand, a bridge between the 1975 model by-law and the installation of the MISA program.

This by-law which we believe is already being introduced in a limited number of municipalities does address some of the concerns of the metal finishing industry, but at the same time effectively increases the inequity between municipalities that do enforce and those that do not. The MISA program which should bring about a much higher degree of fairness in enforcement is at least three years away from being in place. In the meantime industries who have millions of dollars in waste treatment are forced to compete with others, sometimes nearby, who have spent little or nothing on waste treatment.

There seems to be a tendency on the part of the persons who have prepared this by-law to downplay the importance of this issue, even though the MISA document of September 1988 recognizes that it can be a matter of concern. Let me show you the costs as established in the United States and published in the April 1987 issue of Plating and Surface Finishing magazine. Costs, in Canada, are at least as high as in the United States as a percentage of the sales dollar. Charts #1 & 2.

These charts show a wide variation in costs related to the size of the companies being reported. A recent Canadian installation in a job shop cost \$170,000 for a plant using 80,000 gallons (Imperial), having a sales of CAN. \$1,800,000 per year. It's operating cost of waste treatment including the same elements as the American chart amount to \$131,000 or 7.3% of sales. However, only 60,000 gallons of water use and \$1,000,000 sales are related to production that requires treatment. Thus the cost of treatment is 13.1% for these product lines.

We are particularly anxious to show that using STATSCAN or other national averages do not show the economic impact on individual sectors of this industry. Captive shops are unlikely to report sales of their metal finishing operation only.

While the MISA program suggests that accelerated write-offs will be available both federally and provincially, these are needed to permit the replacement of waste treatment equipment, which is proving to have a shorter life than the process equipment that creates the necessity for treatment.

This problem is not a new one since I can remember a meeting of the Eastern Canada Region of the American Electroplating Society in nearby Breslau when a Kitchener plater was very eloquent in his complaint that he had to treat his waste when his competitors in Waterloo did not. That was over 20 years ago.

With the new by-law in place we will see a great many more court actions with "not guilty" pleas. The very much higher maximum fines called for will see very few guilty pleas when grab sampling has been the basis on which a charge is made. We understand that grab sampling greatly simplifies the determining of non-compliance by a metal finisher, but, it can grossly exaggerate the seriousness of the offence. As an example I would like to show the results of a 35 day study made at a facility which has installed the best available technology and has given it careful supervision with a high level of technical skill. Figure 1 shows the daily average discharge of this plant for the 35 day period compared

with the municipal by-law limitation of 5 mg/l. If the company's discharge had been at the limit permitted on average it would have discharged 2.21 kilograms of zinc over a sixteen hour period. The actual overall discharge over the period was only 1.3 kilograms per day. When we look at a specific two day period within this study we see in Figure 2, that an anomaly occurred for a short period of time. Assuming that the period of non-compliance was three hours and that the average discharge was 3 mg/l over the limit, the actual excess of zinc discharged was 185 grams total for three hours on the first day and 308 grams total on the second day.

Both the existing by-law and the proposed model by-law provide for grab samples. This example shows clearly how grab samples distort the actual performance of the company in its efforts to meet the requirements that protect the sewer system, the safety of the workers in the system and the operation of the treatment plant. We note that the proposed by-law in its guidance manual provides for the possibility of sample averaging and the use of proportional flow sampling devices. We would prefer that these latter methods be used exclusively and will co-operate in any program, as is also suggested by the model by-law that would have industry instal such equipment and submit reports as necessary to the appropriate authority. Such reports, would, of course, be subject to confirmation by the authority.

The guidance manual indicates that sampling will be done during regular working hours of an industry, but the most serious hazard for a sewage treatment plant is the concentrated dump that is usually made outside of regular working hours by a plating plant. If there is no treatment system in place these dumps have only one place to go and a grab sample will never pick it up.

Returning to the examples shown above, we would like to bring attention to an anomaly in the by-law in that it penalises a company for any program for the reduction of water use. The by-law prohibits the use of dilution with water as a means of meeting discharge limits. However, if a company reduces its water consumption it must also reduce the amount of restricted matter in its effluent.

The above company produces a quality of water from its final treatment system that permits it to return 40% to its rinsing system. It would seem that it is doing a great service to the sewage plant by reducing the hydraulic load on the system. If it is possible, as the guidance manual suggests to determine if a company is adding water for dilution by checking its records, it must be equally possible to determine the amount of reduction when it occurs and to make a contractual arrangement to permit the company to have 40% greater level of metals in its effluent for compliance on the restricted material.

The steps proposed in the guidance manual for a series of warnings to a company out of compliance are acceptable to our members and would be an improvement on some procedures that have been used in the past. While it might not have been the official policy of a municipality, some inspectors have not followed all of the steps proposed. The guidelines also recommend that the inspectors encourage industry to take a split sample when sampling is being done. This, we not only encourage but cheer. Too often our members have been refused a split sample when they have asked for it and on many occasions the sampling is done without informing the company.

There are some areas in the new model by-law that will need clarification and we are not sure whose interpretation will carry final authority but I will not deal with them at this time.

The MISA program provides us with some encouragement that our concern for uneven and unfair enforcement in Ontario will be addressed. There appears to us much yet to be settled, including the method of financing the program and that the proposed time table may not hold. The recognition in the Environment Ontario publication "Controlling Industrial Discharges to Sewers" under the heading Resource Limitations is most welcome. The time-table indicated in this document would seem to give Environment Ontario authority to correct the present inequities by late 1989 and we sincerely hope that this schedule will be maintained.

The results of the study done for the Ministry by M. M. Dillon, as reported in the above document indicates that the sewer use control program in the United States is the most suitable option for use in Ontario. This does not present a serious problem for us provided we do not get into lock-step with the U.S. and make the same mistakes that they did. Some programs in the United States have proved unworkable and others have put an unnecessary burden on industry without appreciably improving the operation of their POTW's.

We note that the ministry will set provincial regulations for each industrial sector imposing standards based on BATEA - Best Available Technology Economically Achievable. The Ministry is correct in assuming that what is BATEA for one industry may not be appropriate for another. This is also true within the metal finishing industry, since what is appropriate for a metal finisher with one or two elements requiring control, may not be appropriate for another with six or seven elements to control.

We appreciate that economic studies for each industry will be completed prior to the promulgation of BATEA regulations and we hope that these are carried out without bias and with the searching out of all pertinent information. The participants and process by which the Ministry will arrive at BATEA for each industry will apparently include such organizations as CAMF and we will be pleased to bring sources of verifiable information to the process. We presume that we would be included in the sub-committee membership for our industrial category. A very valuable conduit for information on the metal finishing industry is the American Electroplaters and Surface Finishers Society. This Society is a non-profit technical and educational society made up of over 8000 individual members. There are no company memberships. Its membership includes metal finishers, consultants and suppliers of both equipment and chemicals to the metal finishing industry. It meets annually with the American EPA in a co-sponsored three day seminar in January and organizes the largest conference for the industry each June. Within its membership there is to be found the greatest concentration of knowledge in North America on pollution control for this industry.

The Society operates training programs for waste management operators throughout the United States and are now in discussion with another province concerning a program in Canada.

The Society is continuously financing research programs such as one recently finished at the Ontario Research Foundation which investigated the most successful recovery systems available to the industry in Canada. This study was jointly financed by the Ontario Waste Management Corporation. The resulting report was the most sought after document of any of the previous research projects of the Society. Most of the members of the CAMF are contributors to this research program.

In conclusion I would like to emphasize that the members of the Canadian Association of Metal Finishers is both a responsive and responsible group of companies. When we have our opportunity to contribute to the sub-committees studying our industry we will present factual, verifiable information and will assist the sub-committee in identifying suitable and acceptable sources of information. We will seek out information where requested and will make ourselves available for any reasonable amount of time.

WHILE WE SOMETIMES WONDER IF ANYONE LIKES US - WE DO KNOW WE ARE NEEDED.

EXTRACT FROM PLATING AND SURFACING FINISHING
MAGAZINE APRIL 1987

A SURVEY OF METAL FINISHING WASTEWATER
TREATMENT COSTS
BY DONALD P. DUFFY, GREGOR E. NORGAARD
AND JOEL M. SANDBERG

ALL FIGURES IN U.S. & U.S. GALLONS

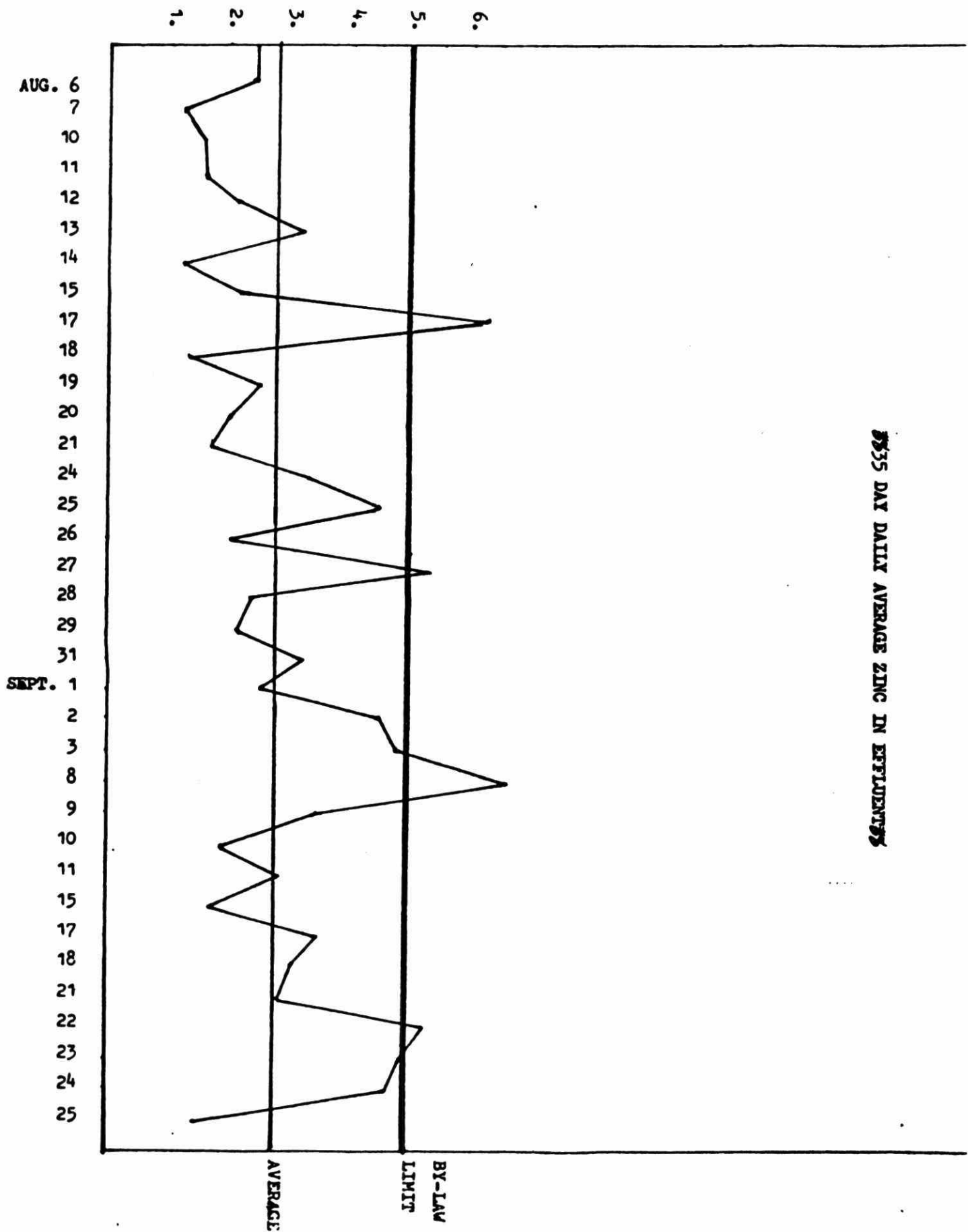
	<u>TYPE OF OPERATION</u>	<u>PROCESS FLOW GAL/DAY</u>	<u>TOTAL CONC. OF TREATMENT PLANT INFLUENT</u>		
			<u>Metals</u>	<u>Cyanide</u>	<u>Chromium</u>
#1*	JOB PLATER	7,000	63	9	6
#2	JOB PLATER	10,000	37	3	7
#3	CAPTIVE PLATER	13,500	306	11	22
#4	CAPTIVE PLATER	15,000	13	1	0.75
#5	CAPITVE PLATER	28,000	5	0	3
#6	P.C. JOBSHOP	36,000	30	0	0
#7	JOB PLATER	45,000	106	14	9
#8	CAPTIVE PLATER	65,000	90	0	15

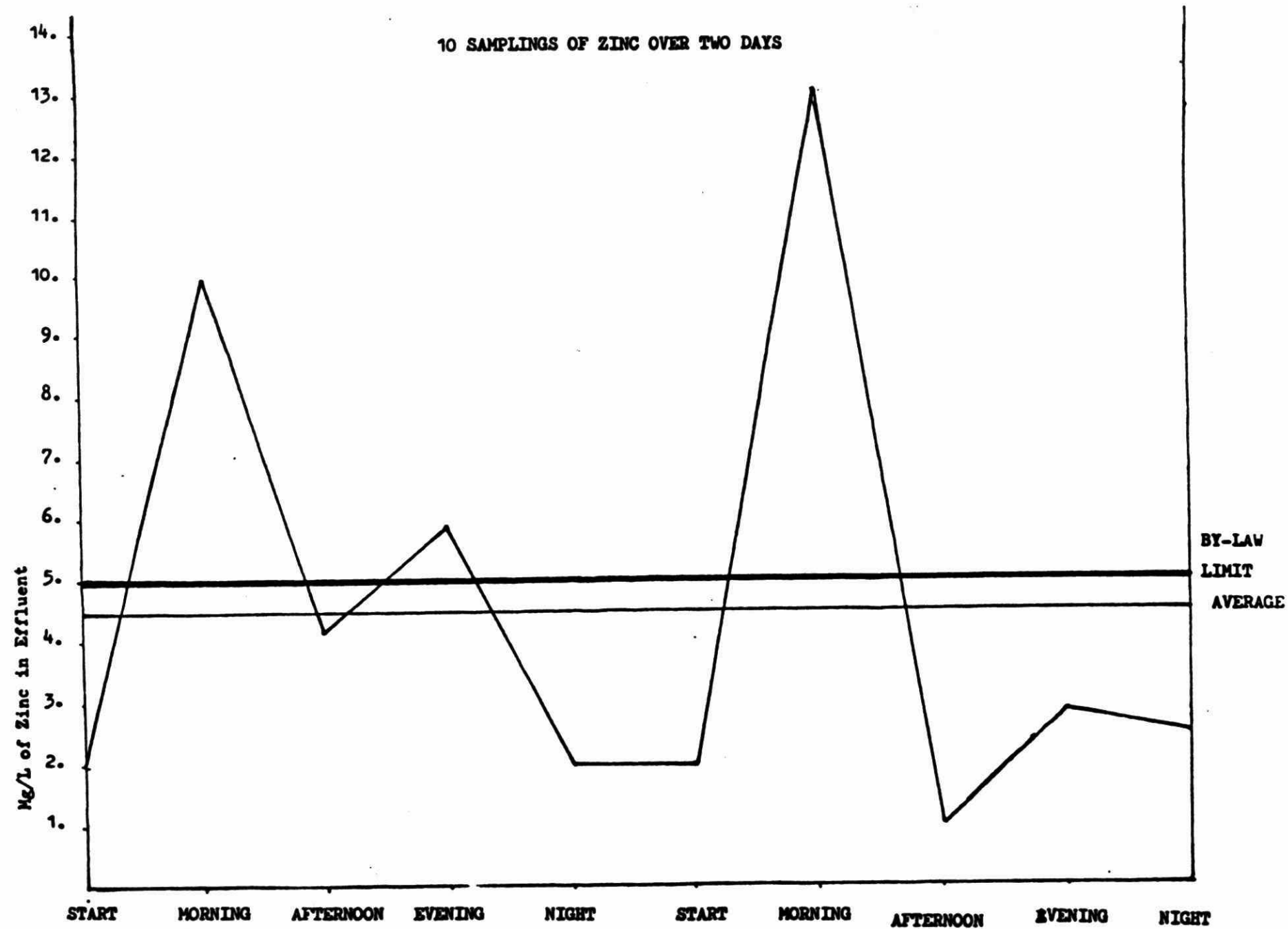
ANNUAL WASTE TREATMENT COSTS

	<u>TOTAL INSTALLATION COST</u>	<u>CHEMICAL</u>	<u>LABOUR</u>	<u>DISPOSAL OF SLUDGE</u>	<u>DEPRECIATION AND OTHER</u>	<u>TOTAL</u>
#1	19,300	8,462	25,284	6,000	5,146	44,892
#2	100,000	10,882	14,872	35,640	20,300	81,694
#3	430,000	11,300	116,551	36,792	90,000	254,733
#4	250,000	5,216	42,312	19,402	65,750	132,680
#5	200,000	6,653	11,610	23,220	56,600	98,083
#6	477,000	16,495	17,280	27,360	97,751	158,886
#7	200,000	21,084	31,381	32,076	41,100	102,761
#8	120,000	50,357	39,330	30,444	35,560	156,691

* THIS IS A BATCH TREATMENT OPERATION
ALL OTHERS ARE CONTINUOUS FLOW AND AUTOMATED

35 DAY DAILY AVERAGE ZINC IN EFFLUENTS





POLLUTION CONTROL PLANNING
AND BASIN MANAGEMENT IN THE
REGION OF WATERLOO

by

G. Zukovs, S.G. Nutt and G. Godin
CANVIRO Consultants
Waterloo, Ontario

INTRODUCTION

The Regional Municipality of Waterloo is experiencing an unparalleled period of industrial, commercial and residential growth. This growth has placed a significant burden on all facets of the municipal infrastructure, including sewage collection and treatment. At the same time, increasingly stringent effluent quality requirements for conventional and trace contaminants, fueled by concerns regarding receiving water quality, have placed an additional burden on the existing municipal waste water treatment facilities. Large capital expenditures will be needed to maintain the existing level of service without impeding the rate of growth in the Region or adversely impacting on the environment.

In recognition of the need for capital expenditure and the necessity to ensure that such expenditures were judiciously managed, the Region undertook a study aimed at establishing a systematic plan for the orderly expansion and upgrading of the waste water treatment plants (WWTPs) in the Region over the next 30 years. This paper presents an overview of the planning procedures used and the approach taken to establish short-term and long-term facility expansion requirements^(1,2).

BACKGROUND AND OBJECTIVES

The sewage treatment requirements of the Regional Municipality of Waterloo are provided by eleven WWTPs as identified in Table 1. These facilities discharge approximately 162,500 m³/d of treated effluent to the Grand River, either directly (Kitchener, Waterloo, Preston, and Galt WWTPs) or indirectly via the Speed River (Hespeler WWTP), the Conestogo River (St. Jacob's WWTP), the Nith River (Wellesley, Baden, New Hamburg, and Ayr WWTPs) and the Canagagigue Creek (Elmira WWTP).

Table 1
TREATMENT FACILITIES LOCATED IN THE WATERLOO REGION

WWTP	Service Area Population (Dec. 31, 1986)	Type of Treatment	Rated Capacity (m ³ x 1000/day)
Kitchener	149,988	Conventional Secondary	122.74
Waterloo	72,438	Conventional Secondary	45.46
Cambridge (Galt)	48,501	Conventional Secondary	38.641
Cambridge (Preston)	17,734	Conventional Secondary	16.866
Cambridge (Hespeler)	10,636	Modified Secondary (High Rate Activated Sludge)	9.319
Elmira	7,361	Conventional Secondary and Tertiary	4.545
New Hamburg	4,496	Aerated Lagoons	2.296
Ayr (West Dumfries)	1,448	Extended Aeration	1.181
St. Jacobs	1,345	Oxidation Ditch	0.954
Baden	1,083	Extended Aeration	0.923
Wellesley	1,008	Extended Aeration	0.50

The Grand River Basin has been the subject of extensive investigation under the Grand River Basin Water Management Study⁽³⁾. This study identified serious concerns with respect to total phosphorus loadings, un-ionized ammonia concentrations and oxygen-demanding carbonaceous and nitrogenous materials from municipal sewage treatment plant discharges. In addition, the high industrial contribution

to the Elmira WWTP produces concerns with respect to discharges of phenolic compounds. Some river reaches have also been identified as areas of water quality concern because of toxic substances, suspended solids, trace contaminants and bacteria.

Addressing the identified water quality concerns in the receiving streams was an objective of the 30-Year Plan for Wastewater Treatment in the Region, as was addressing the new and proposed effluent regulations which were expected to have an impact on the capability and capacity of the existing facilities. Specifically, the objectives were:

- 1) To review the operational status of each WWTP with respect to process and mechanical equipment, hydraulic and organic loading conditions, and performance.
- 2) To forecast loading conditions (hydraulic and organic) to the end of the 30-year planning period (2017).
- 3) To review the current effluent quality requirements and to estimate the ultimate effluent quality requirements for each WWTP and to determine the impact of these requirements on plant capacity and the potential for plant expansion.
- 4) To assess the implications of extraneous flows due to infiltration/inflow (I/I) on the hydraulic capacity of the WWTPs.
- 5) To develop a systematic plan for expansion and, where necessary, upgrading of the WWTPs in the Region to meet growth requirements, and to develop current and future performance objectives for the duration of the 30-year planning period.

APPROACH

In order to develop the 30-Year Plan for the Region, each WWTP was subjected to a detailed review of historical performance over a two-year period to determine present hydraulic and organic loading conditions and to establish performance characteristics. Onsite plant surveys were undertaken at all facilities to define process, mechanical, and physical upgrading requirements. At the larger facilities (Kitchener, Galt, Preston, and Hespeler), detailed process audits were performed to establish plant capacity. Details of the procedures used during these process audits have been presented elsewhere^(4,5). Briefly, the audits involved detailed monitoring of process conditions using on-line instrumentation and automatic data acquisition equipment to establish dynamic patterns in the process and to allow an assessment of hydraulic and organic load limitations in the facility. Oxygen transfer measurements on existing aeration hardware were a key component of these process audits. From the data generated, an accurate estimate of plant capacity could be made and the need for upgrading and expansion to handle future loads could be defined. An audit was not conducted at the Waterloo WWTP, the second largest facility in the Region, because it was already at hydraulic capacity and undergoing expansion.

Future flow and load projections were developed to the year 2017, based on Regional and local Planning Department population forecasts and 1986 per capita flow and loading data. Adjustments were made to account for abnormal industrial growth where appropriate.

In conjunction with the MOE, future effluent quality requirements were developed for each WWTP. The water quality management objectives stated in the MOE Blue Book⁽⁶⁾ formed the basis for establishing future allowable receiving water loadings from each WWTP. The Grand River Simulation Model (GRSM) was employed to assess water quality impacts

and allowable loadings for WWTPs discharging to the Grand River. Other more conventional modelling techniques were employed to estimate impacts and allowable loads for the other WWTPs.

Statistical analysis of WWTP flow records, along with a review of previous collection system studies, were used to estimate the extent of I/I problems at each facility. The economic ramifications of I/I removal from each collection system were estimated based on the proportional reduction in the variable O&M costs for that facility.

From these analyses, upgrading and/or expansion requirements at each WWTP were established. In each case, maximizing the use of existing facilities was emphasized. Where appropriate, allocations of discharge loadings between WWTPs on the same receiving stream were considered to maximize basin assimilative capacity while minimizing overall capital expenditure. In situations where space or receiving water quality constraints were identified, alternative approaches, such as combining flows from smaller WWTPs for treatment at a central facility, were evaluated as a means of maintaining waste water treatment service. Capital and O&M cost estimates were developed for all projects identified, including up-front study costs. The individual WWTP project costs were amalgamated into a Region-wide 30-Year Plan according to the priorities assigned to each individual project. The 30-Year Plan developed by this approach was intended to forecast key events related to waste water treatment services in the Regional Municipality of Waterloo and to provide budgetary cost estimates for fiscal planning purposes.

STATUS OF WWTPs IN THE REGION

Several of the WWTPs in the Region were undergoing upgrading or expansion due to capacity or performance limitations identified prior to the start of the plan development stage. The status of the Region's facilities at the

start of the Plan development stage is briefly summarized in Table 2. Notable projects that had already been identified, and to which capital funds had been committed, included upgrading of the Hespeler and Kitchener WWTPs, and expansion of the Waterloo WWTP.

Table 2
STATUS OF WWTPs IN THE REGION

Facility	Status
1. Kitchener	<ul style="list-style-type: none">- At 54 percent of design capacity.- Upgrading of RAS/WAS metering and control being implemented.- Installation of DO monitoring and control in progress.
2. Waterloo	<ul style="list-style-type: none">- Expansion underway to increase capacity to $72.7 \times 10^3 \text{ m}^3/\text{d}$.- Collection system study underway.
3. Galt	<ul style="list-style-type: none">- Expansion/upgrade anticipated in 1988/89.
4. Preston	<ul style="list-style-type: none">- At 53 percent of design hydraulic capacity.- Organic overloading from local industries identified.
5. Hespeler	<ul style="list-style-type: none">- Improvements in aeration and raw sewage pumping being implemented.- Additional need for secondary clarification contingent on performance after initial modifications.
6. Elmira	<ul style="list-style-type: none">- Severe I/I problems in collection system.- Plant approaching rated capacity.
7. New Hamburg	<ul style="list-style-type: none">- Experiencing I/I difficulties.
8. Ayr	<ul style="list-style-type: none">- Anticipate adequate capacity to beyond 2017.
9. St. Jacobs	<ul style="list-style-type: none">- Hydraulically and organically overloaded.
10. Baden	<ul style="list-style-type: none">- Experiencing I/I difficulties.
11. Wellesley	<ul style="list-style-type: none">- At rated hydraulic capacity.- Collection system study in progress and I/I reduction being considered.

As shown in Table 3, it was identified that several of the Region's WWTPs would be subject to more stringent effluent requirements than specified in MOE's Policy 08-01 and Policy 08-04 within the 30-year planning period. These restrictions generally applied to discharges of phosphorus and ammonia. Specifically, phosphorus removal to levels of less than 1 mg/L would be required at Kitchener, Waterloo, Galt, and, seasonally, at Hespeler. Ammonia removal requirements would apply at Kitchener, Waterloo, Galt, Preston, Hespeler, New Hamburg, St. Jacobs, and Wellesley. The projected lowering of effluent objectives for the Elmira WWTP were based on maintaining the same receiving water loads for BOD₅, TSS, phosphorus, TKN, ammonia, and phenol at the projected future plant discharge of $5.8 \times 10^3 \text{ m}^3/\text{d}$ as were presently required for flows up to the rated capacity of $4.545 \times 10^3 \text{ m}^3/\text{d}$. These specific water quality-based effluent objectives would be over-and-above the requirements to achieve the BOD₅, TSS, and TP objectives outlined in Policies 08-01 and 08-04 on a monthly basis, and the impending requirements of MOE's MISA program.

The compliance status of these facilities, based on MOE's Report on the 1986 Discharges from Municipal Wastewater Treatment Facilities in Ontario⁽⁷⁾ is summarized in Table 4. With the exception of the Hespeler WWTP, all facilities were in compliance with annual BOD₅ and TSS objectives. Non-compliance with monthly TP objectives occurred at Waterloo, Preston, Hespeler, Elmira, St. Jacobs, Baden, and Wellesley. Of these, all WWTPs except Elmira and Hespeler achieved an annual average of 1.0 mg/L TP or less.

KEY FINDINGS OF THE 30-YEAR PLAN

Major capital projects were forecast for all facilities in the Region within the 30-year planning period, with the exception of the Ayr WWTP where only equipment replacement costs were identified. At two other facilities (New Hamburg and Baden), the timing and extent of future

Table 3
ANTICIPATED WWTP EFFLUENT OBJECTIVES

Facility	Rated Capacity (10 ³ m ³ /d)	1986 Average Flow (10 ³ m ³ /d)	2017 Design (10 ³ m ³ /d)	Receiving Stream	Anticipated Design Objectives *								Comments
					BOD ₅	SS	Total P	TKN	Total Ammonia	Total Phenols (µg/L)	Total Residual Chlorine	Total Coliforms (org/100 mL)	
Kitchener	122.74	63.4	96.7	Grand River	15 15	15 15	0.7 0.66	- -	2.0 1.9	- -	- -	- -	to 90.9x10 ³ m ³ /d to 96.7x10 ³ m ³ /d
Waterloo	45.46	46.1	78.3	Grand River	15	15	0.80	-	-	-	0.5	200	to 54.6x10 ³ m ³ /d
					15	15	0.60	-	1.8	-	0.5	200	to 72.7x10 ³ m ³ /d
					15	15	0.55	-	1.7	-	0.5	200	to 78.3x10 ³ m ³ /d
Galt	38.641	30.1	48.0	Grand River	15	15	0.6	-	2.0	-	-	-	to 61.4x10 ³ m ³ /d
Preston	16.866	8.9	3.4	Grand River	15	15	1.0	-	15	-	-	-	to 16.9x10 ³ m ³ /d
					15	15	1.0	-	2 to 4	-	-	-	to 34x10 ³ /d
Hespeler	9.319	5.48	9.9	Speed River	15	15	0.66/1.0	-	4.0	-	0.5	200	to 13.6x10 ³ m ³ /d
					15	15	0.50/1.0	-	3.0	-	0.5	200	to 18.2x10 ³ m ³ /d total P May 1-Sept 30/ Oct 1-Apr 30
Elmira	4.545	3.98	5.0	Canagagigue Creek	7.5	15	1.0	3.5	7.5	6.5	-	-	to 4.5x10 ³ m ³ /d TKN-Apr 1-Oct 31
					5.5	11	0.7	2.5	5.5	5.0	-	-	NH ₃ -N-Nov 1-Mar 31 to 5.8x10 ³ m ³ /d ⁽¹⁾ TKN-Apr 1-Oct 31 NH ₃ -N-Nov 1-Mar 31
New Hamburg	2.296	1.69	2.0	Nith River	15/30	15	1.0	8.0	3.0	-	-	-	to 2.3x10 ³ m ³ /d will re- quire 217,000 m ³ of storage & streamflow proportional discharge BOD ₅ May-Oct/Nov-Apr
Ayr	1.181	0.40	0.80	Nith River	15	15	1.0	-	-	-	-	-	to 1.2x10 ³ m ³ /d
St. Jacobs	0.954	1.130	1.70	Conestogo River	15	15	1.0	-	15/5	-	-	-	to 1.82x10 ³ m ³ /d
Baden	0.923	0.68	0.87	Baden Creek	15	15	1.0	-	-	-	-	-	to 0.92x10 ³ m ³ /d stream water quality poor; MOE desires no additional loadings
Wellesley	0.50	0.64	0.896	Nith River	15	15	1.0	-	5.0	-	-	-	to 1.09x10 ³ m ³ /d will require 81.8x10 ³ m ³ of storage & streamflow proportional discharge

* All units in mg/L unless otherwise stated

Table 4
COMPLIANCE STATUS OF REGION'S WWTPs

Facility	BOD ₅	Compliance Status*	
		TSS	TP
Kitchener	Yes	Yes	Yes
Waterloo	Yes	Yes	No (2)
Galt	Yes	Yes	Yes
Preston	Yes	Yes	No (3)
Hespeler	No	No	No (8)
Elmira	Yes	Yes	No (8)
New Hamburg	Yes	Yes	Yes
Ayr	Yes	Yes	Yes
St. Jacobs	Yes	Yes	No (4)
Baden	Yes	Yes	No (4)
Wellesley	Yes	Yes	No (1)

Notes: * BOD₅ and TSS based on annual average requirements.
TP based on monthly requirements. Number of months
out-of-compliance is shown in brackets.

works was contingent on the success of efforts to remove excessive amounts of extraneous flow from the collection system. The estimated capital expenditure (1987 dollars) required to maintain service in the Region and to meet the anticipated effluent quality requirements which may be placed on the facilities was approximately \$120 million, including \$20 million in committed projects. The largest expenditures, exclusive of those already committed, were forecast for the Galt and Preston WWTPs.

Capital expenditures were forecast as a result of both plant expansion requirements over the planning period and plant upgrading requirements to meet new or proposed effluent-quality objectives. Table 5 shows the major capital works identified for facilities in the Region. Planning projections suggest that the Galt, Preston, Hespeler, Elmira, St. Jacobs, and Wellesley WWTPs will require expansion beyond their present rated hydraulic capacity before 2017 to meet residential and industrial demands. In addition, the Waterloo WWTP, which was undergoing expansion during development of the 30-Year Plan to increase its rated

Table 5
PROJECTED MAJOR CAPITAL WORKS PROGRAMS

Facility	Undertaking	Timeframe
1. Kitchener	- Digester expansion/upgrading	1994
	- Aeration upgrade to achieve nitrification	1994
	- Final effluent filtration	1994
2. Waterloo	- Final effluent filtration	1991
	- Plant expansion and upgrade	2004
3. Galt	- Upgrade of aeration system	1989
	- Plant expansion and upgrade	2000
4. Preston	- Upgrade of existing facility	1990
	- Plant expansion and upgrade	≈ 1995
5. Hespeler	- Upgrade of existing facility	1988-1990
	- Plant expansion and upgrade	2012
6. Elmira	- Plant expansion and/or effluent transfer to Grand River	1990
7. St. Jacobs	- Plant expansion, possibly in conjunction with Elmira	1989
8. Wellesley	- Plant expansion	1989

capacity, would require a second expansion to further increase capacity before 2017. Thus, of the eleven WWTPs in the Region, seven would require expansion at some time during the planning period. Of these seven WWTPs, five facilities (Waterloo, Galt, Preston, Hespeler, and Elmira WWTPs) would also be subject to more stringent effluent regulations during the same 30-year time period. As a result, the capital works projected for these facilities also included an upgrading component to increase plant performance from the standpoint of organic removal, phosphorus removal and/or ammonia-nitrogen removal. The Kitchener WWTP, which was projected to be operating at only 80 percent of present rated capacity at the end of the planning period, would

require capital works due entirely to increasingly stringent effluent quality objectives which would be applied before 2017.

In some instances, it was shown that large capital expenditures at one facility might be postponed or delayed by improvements made at another facility. For example, trade-offs were shown to exist between the Kitchener, Preston, and Galt WWTPs in terms of effluent load allocations and Grand River water quality. Improvements beyond the maximum allowable effluent un-ionized ammonia concentrations or total phosphorus concentrations at one or two of these facilities could be traded against the effluent objectives required for a third facility.

Treatment plant process audits undertaken at the larger facilities were also successful in identifying potential avenues of capital cost saving through process optimization. For example, large capital expenditures had been originally forecast for the Kitchener WWTP to achieve the nitrification objective proposed. As part of the process audit, oxygen transfer tests demonstrated that the potential existed to achieve nitrification within the existing facility by lower capital cost improvements to aeration hardware and implementation of dissolved oxygen monitoring and control techniques. The in-plant tests demonstrated that existing oxygenation capacity was adequate to beyond the year 2000 and that minor upgrading could improve the transfer capability to meet demands for nitrification to near the end of the planning period.

EFFECT OF EFFLUENT REQUIREMENTS ON THE PLAN

New and proposed effluent requirements impacted significantly on the outcome of the planning process. As noted, six of the eleven facilities in the Region were subject to more stringent effluent quality objectives because of water quality concerns. All facilities will be impacted by the change from the historical annual averaging of efflu-

ent quality for assessing to the monthly averaging and by the still undefined MISA requirements. It is difficult to break down the capital costs in the 30-Year Plan into components which were associated with expansion to meet capacity requirements, with upgrading to maintain or meet present effluent requirements, and with upgrading to meet new and proposed effluent requirements. However, as a rough estimate, up to 25 percent of the total capital expenditures forecast and committed may be directly associated with the new effluent requirements. These requirements could have been substantially higher without prudent evaluation of the capabilities of the existing hardware, and consideration of alternative approaches to meet water quality concerns.

REFERENCES

1. Canviro Consultants. A Thirty-Year Plan for Waste Water Treatment, Volume 1, Summary Report. Prepared for the Regional Municipality of Waterloo. November 1987.
2. Canviro Consultants. A Thirty-Year Plan for Waste Water Treatment, Volume 2 - Technical Report. Prepared for the Regional Municipality of Waterloo. December 1987.
3. Grand River Implementation Committee. Grand River Basin Water Management Study. 1982.
4. Canviro Consultants. Evaluation of the Potential for Energy Savings and Nitrification at the Kitchener Water Pollution Control Plant. Prepared for the Regional Municipality of Waterloo and Environment Canada. November 1986.
5. Stephenson, J.P., S.G. Nutt, and G.W. Speirs. "On-Line Instrument and Micro-Processor Based Audit of Activated Sludge Systems". Presented at the Annual Conference of the Instrument Society of America ISA/87, Los Angeles, Ca. October 1987.
6. Ontario Ministry of the Environment. Water Management Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment. May 1984.
7. Ontario Ministry of the Environment. Report on the 1986 Discharges from Municipal Wastewater Treatment Facilities in Ontario. October 1987.

IMPACT ON DESIGN AND OPERATION OF MUNICIPAL TREATMENT PLANTS

Steve McMinn, M.M. Dillon Limited - Design
Bob Pickett, Metro Toronto Works Department - Operations

1. DESIGN

(a) GENERAL

The Municipal/Industrial Strategy Abatement (MISA) initiative, combined with a generally increased stringency in effluent quality and in the definition of compliance, is changing the design process for all treatment facilities.

As an example of the impact on small facilities, we can look at the Village of Lucan sewage treatment expansion project. Lucan is located 30 km north of London, and is only one of many small municipalities with similar projects now underway in South-western Ontario.

The existing 13 acres of facultative lagoons which serve a population of 1,600 persons have been over capacity for some years now. The lagoons, originally designed for continuous discharge, were later designated by Ministry of the Environment (M.O.E.) as a seasonal discharge (twice per year) system. With a requirement to store and treat sewage without discharge from May until October, the lagoons actually fill and begin to discharge by July. Development restrictions on subdivision approval have been in place for a number of years, but additional flows from previously approved developments have compounded the problem.

The lagoons discharge to an agricultural drainage ditch which then transports effluent approximately 1500 m to the Little Ausable River. The ditch and the river experience periods of zero flow.

Stream quality degradation, as measured by free ammonia, Five-day Biochemical Oxygen Demand (BOD₅), Phosphorus (P) and Dissolved Oxygen Parameters, was attributable directly to seasonal discharge from the lagoons.

By-passing of raw sewage was occurring at the single pump station in the Village and from at least one other location along the sewer system.

Population projections for the Village indicated a considerable population increase and Village Council was in favour of growth.

Obviously, something had to be done to solve the environmental problem and meet the demand of increased population.

Effluent guidelines were developed for the new 20-year population of 3,000. The new or upgraded facility would continue to discharge to the land drainage system.

(b) EFFLUENT GUIDELINES

(i) Biochemical Oxygen Demand (BOD)

- * Non-freezing period 5.0 mg/L
- * Freezing period 10.0 mg/L
- * Freezing: Average of Daily Mean Ambient
Temperature equal to or less than 0°C

Biological treatment alone cannot ensure that the non-freezing period criteria can be consistently achieved. Even appropriately designed, seasonal discharge facultative lagoons will not meet these criteria. Aerated lagoons would require a solids separation step, probably settling plus filtration. An activated sludge system will also require the filtration phase.

(ii) Suspended Solids (S.S.)

- Non-freezing period 5.0 mg/L
- Freezing period 10.0 mg/L

The same considerations apply here as for the BOD₅ requirements. Assuming biological treatment, achieving the BOD₅ criteria will also mean that S.S. goals will be met.

(iii) Total Ammonia Nitrogen

- Non-freezing period 2.0 mg/L
- Freezing period 4.0 mg/L

This is the most influential determinant in treatment process selection.

The efficiency of biological nitrification is dependent on, among other things, temperature, pH and Dissolved Oxygen Concentration. (Providing an adequate sludge age is, of course, a basic requirement).

Nitrification becomes temperature dependent at operating temperatures less than 12-15°C, severely inhibited below approximately 7°C and below 5°C almost non-existent.

Of viable treatment systems, only the extended aeration and rotating biological contactor (RBC) options can provide the required level of nitrification during the freezing period. Lagoon technology is not suitable.

(iv) Total Phosphorus

Non-freezing period	0.3 mg/L
Freezing period	0.8 mg/L

This reinforces the need for effluent filtration, obviously demands high chemical addition and may require multiple point chemical addition.

(v) Dissolved Oxygen

Non-freezing period	5.0 mg/L
Freezing period	5.0 mg/L

May require post aeration facility.

(vi) E. Coli

Non-freezing period	200/100 mL
Freezing period	200/100 mL

Disinfection, which to obtain non-toxic effluent cannot be by chlorination unless followed by dechlorination, will most likely be by UV disinfection.

(c) OTHER DESIGN CONSTRAINTS

(i) No By-Pass

Smaller communities experience high peak to average flows. When combined with a leaky sewer system and interconnection with storm-type flows, it is appropriate to provide flow

equalization. This not only makes it more likely that the stringent effluent guidelines can be consistently met, but may allow reduction in the size of those plant processes (clarifiers, filters) that are sized for peak flows.

(ii) Compliance

As well as the requirement to meet more stringent effluent criteria, these criteria must be complied with on a more consistent basis than in the past. It is necessary to accept and treat (at least to primary level) all sewage which enters the sanitary sewer system, including in some cases, returned flows from combined sewer overflows. Some plants may be required to accept, and handle without passthrough, certain toxic parameters. Redundancy in unit processes, process controls systems, increased operator training, conservative design to accept peak flows and shock loadings all result from this more strict compliance requirement.

(iii) MISA Regulations

MISA regulations are not expected to further impact many of the small to medium facilities which are already subjected to strict effluent guidelines, particularly where industry is not a factor. Where toxic wastes from industry (non-categorical or SIDS) do pass through the municipal plant, further municipal treatment processes may be a local option.

(iv) Discharge to Match Assimilative Capacity

In general, the criteria considered in today's paper will permit continuous discharge even when zero flow is available in the receiver (in this case, a drainage course or small stream). The effluent is classified as non-toxic to aquatic life and available dilution is not considered as allowing for effluent to be of a reduced quality.

(d) THE SELECTED DESIGN SOLUTIONS

- Abandon existing lagoons
- Flow equalization
- Extended aeration for nitrification
- Effluent filtration
- Ultraviolet disinfection
- Aerobic sludge digestion

The effluent criteria effectively excluded the lagoon option and required the higher cost solution, namely a mechanical treatment plant. Local conditions did not allow incorporation of the existing lagoons, even had they been shown to be of benefit.

(e) THE POST-MORTEM

- Is the effluent criteria logical for a small municipality discharging to a sensitive receiver?
- Is the provincial grant money being effectively used?
- Are there less expensive, reliable treatment options (the "Sutton" concept)?
- Are individual project costs being assessed as part of an overall provincial expenditure?
- Should effluent guidelines which are provided by the Province need to be rigorously justified.
- Is lagoon technology now obsolete?
- Should more affordable techniques, such as wetlands, be implemented more aggressively, perhaps using special funding for innovative approaches.

2. OPERATION

(a) GENERAL

Having dealt with some of the possible impacts that the new and proposed effluent guidelines will have on the design of municipal treatment plants, this portion of the paper will deal with some of the operational problems posed by these guidelines.

In order to illustrate some of the operational impacts, we will introduce another treatment plant's Certificate of Approval which governs the effluent quality and the special conditions of operation.

The plant selected is the Humber Treatment Plant located in Metropolitan Toronto. This activated sludge was commissioned in 1960. It has a present day capacity of approximately 410,000 cubic metres per day and is being expanded to 473,000 cubic metres per day. The plant serves a population of 540,000 people and receives flows from residential, industrial and commercial sources.

Upon the expansion of the secondary treatment capacity from 410,000 m³/d to 473,000 m³/d in 1988, the plant was issued its first ever Certificate of Approval, with terms governing its effluent quality.

The effluent objectives stated in this Certificate are not that comprehensive.

(b) EFFLUENT OBJECTIVES

(i) Design Objectives

<u>Effluent Parameter</u>	<u>Effluent Concentration</u>	<u>Total Loading From Effluent</u>
Total Phosphorus (P)	1.0 mg/L	172,000 kg/year
Suspended Solids (S.S.)	15.0 mg/L	
Five-day Biochemical Oxygen Demand (BOD ₅)	15.0 mg/L	

(ii) Operating Objectives

<u>Effluent Parameter</u>	<u>Effluent Concentration</u>	<u>Total Loading From Effluent</u>
Total Phosphorus (P)	1.0 mg/L	172,000 kg/year
Suspended Solids (S.S.)	25.0 mg/L	
Five-day Biochemical Oxygen Demand (BOD ₅)	25.0 mg/L	

The objectives do not seem particularly onerous, however, one cannot help noticing that Design Objective and Operating Objective for Phosphorus are equal. This situation cannot help but put extra pressures and demands on the operator to run the facilities exactly as designed, with no margins as provided for in the Suspended Solids and Five-day Biochemical Oxygen Demand limits. It should also be noted that the Phosphorus requirement is based on a monthly average whereas the Suspended Solids and the Five-day Biochemical Demand requirements are based on an annual average.

The special conditions of the Certificate call for the maintenance of records on all raw or partially treated sewage for all by-pass occurrences. As well the influent and effluent shall be analyzed for:

- Total Phosphorus (P)
- Total Kjeldahl Nitrogen (TKN)
- Ammonia Plus Ammonium Nitrogen
- Nitrite Plus Nitrate Nitrogen
- Five-day Biochemical Oxygen Demand (BOD₅)
- Suspended Solids (S.S.)
- Chlorides
- Conductivity
- Total Coliform Bacteria
- Fecal Coliform Bacteria
- Fecal Streptococcus

These conditions are not particularly difficult to deal with given that there are laboratory facilities located at the treatment plant capable of handling this type of analysis. It should be noted, however, that conditions surrounding the recording of the by-pass occurrences, provides no relaxing of the effluent guidelines during these events. Nowhere in the Certificate is there a provision for an excursion caused by storm or wet weather flows.

In order to more fully review the implications that these effluent guidelines will have on operations, we will look at three areas:

- (1) Operations and Maintenance Procedures and Practices
- (2) Storm Flows
- (3) Costs

(c) OPERATION AND MAINTENANCE PROCEDURES AND PRACTICES

It is obvious that we will have to move from training by osmosis to training of a more formal nature. In order to demonstrate a due diligent defence, it must be shown that formal operating procedures are in place and that personnel are familiar with these procedures. These procedures must be in a written form in order to ensure that there is no misunderstanding. Having said that these procedures must be written, this does represent a bit of a problem. If we were to review the operating manuals for a facility of the size of the Humber Treatment Plant, one could envision a manual the size of several encyclopedias. It is obvious that the manual itself will provide little protection if the people, who will have to use it, have not been trained.

Certainly, the Certification of Operators will provide us with a means of ensuring that all our operators are measured against a common yardstick. This is not to say that Certification by itself will solve the problem of qualified personnel. We must institute training programs which will ensure the operators are prepared to handle the problems they will face when operating the treatment plant.

In order to have proper operations the facilities must be properly maintained. This will call for written procedures and schedules to ensure that the proper maintenance is being conducted. Here is another area where training will be required in order to ensure that the maintenance personnel are properly skilled. Part and parcel of the maintenance program will be the need to have stand-by equipment, to be put in service whenever maintenance will be required on the operating equipment. This is common practice in the Water Supply industry, where they have defined the "firm" capacity which recognizes the possible loss of equipment due to maintenance.

(d) STORM FLOW

I have deliberately put storm flow as a separate area to review because it is not handled in the Certificate of Approval governing effluent guidelines. In the previous section dealing with design, there is no provision for storm flow in the Certificate for the Lucan facilities. In the same fashion, the Humber Treatment Plant's Certificate mentions that records must be kept of the flows, quality, duration and volume, however, no provision is made in the effluent guidelines to exclude the storm flow data from the monthly and annual averages. If the intent is to provide the quality of treatment to all flows, then facilities will have to be sized for treatment of storm flows. The dilemma here is for what intensity of storm would you design?

(e) COSTS

Everything we have stated in the two previous areas has a cost associated with it, whether it is an operating cost or a capital cost. If we review the operating costs that will be experienced by these guidelines, there will be costs for training of personnel and for the trainers who teach the staff. As well, there will be extra staff required to cover the plant while some of the operators are at training courses. There will also be costs for the development of these courses. There will be a cost associated with the preparation of manuals. One example of these costs, we have received a cost for the preparation of a manual, for automated digester operation at one of the Metro Toronto Plants, of approximately \$30,000.00.

We must also consider the cost for doing the necessary effluent analysis. In the case of the Humber Treatment Plant, daily analysis is conducted on the influent and effluent for:

Total Phosphorus (P)
Total Kjeldahl Nitrogen (TKN)
Five-day Biochemical Oxygen Demand (BOD₅)
Suspended Solids (S.S.)

plus Ammonia, and Ammonium Nitrogen on the effluent only:

Other analysis includes:

- Settled Sewage Suspended Solids and BOD₅
- Mixed Liquor Suspended Solids
- Return Sludge Suspended Solids
- Primary Sludge Total Solids and Volatile Solids
- Thickened Waste Activated Total Solids and Volatile Solids
- Weekly Digested Sludge Total Solids and Volatile Solids
- Filter Cake Total Solids
- Filtrate Suspended Solids
- Monthly analysis influent and effluent for heavy metals
- Monthly analysis of digested sludge for heavy metals

The present annual cost for our laboratory services is approximately \$1,370,000.00. This is the cost to run five laboratories, one at each of the four treatment plants and our Industrial Waste Laboratory. We conduct approximately 127,000 analyses on 74,000 samples. We are presently expanding our Industrial Waste Laboratory and are adding the capability to do trace organics, with the exception of dioxins, furans and PCB's. The cost of the facilities is about \$5,000,000.00, including the laboratory equipment. We will be able to conduct analysis for heavy metals, phenols, greases and oils, bacteriology and trace organics.

If we look at possible capital costs, the cost to handle wet weather flow at the Humber Treatment Plant is estimated to be \$32,000,000.00, for an additional 59,020 m³/d of secondary treatment capacity. This figure was obtained from a recently completed study (Humber Sanitary Trunk Sewer System and Treatment Plant Study, July 1988, UMA Engineering Ltd.) on the Humber Treatment Plant. Even this figure is based only upon a five-year storm.

The requirement for stand-by equipment for "firm" capacity during scheduled maintenance also has its associated cost. One can use the estimation of approximately \$9.08 per litre for additional secondary treatment capacity or \$18.16 per litre for primary plus secondary, when calculating the cost for stand-by facilities.

(f) IMPACT OF MISA

If we are to consider the impact that MISA will have on the previous three areas of concern, perhaps the greatest impact will be on the analytical work that will be required. Presently, Metropolitan Toronto pays approximately \$60,000.00 to sample four treatment plants' influent and effluent for heavy metals and trace organics. This works out to approximately \$15,000.00 per plant per sampling. The forty plant studies conducted by the Ministry of the Environment (M.O.E.) cost approximately \$2,000,000.00 for analysis of the influent, effluent and sludges, on two occasions per plant. Analysis was conducted for heavy metals, trace organics and the conventionals, i.e. BOD₅, S.S. TP, NH₃, NO₂, TKN, Cl₂. The M.O.E. has recently released a report on Laboratory Facilities capabilities to handle the MISA sampling (M.M. Dillon, July 1988). In this report, the cost for a Total MISA Characterization was broken down as follows.

<u>Low</u> <u>\$</u>	<u>Median</u> <u>\$</u>	<u>Average</u> <u>\$</u>	<u>High</u> <u>\$</u>
1,247.05	3,509.35	4,042.78	11,701.70

The report goes on to say that they feel that there is sufficient laboratory capacity to handle the MISA analysis.

My sense is that we will experience problems with the cost of the MISA sampling. Unless the M.O.E. provides some means of certifying the laboratories, we could have problems with data reliability. This complicated by delays in obtaining results. We can presently wait as long as three months from the time of sampling to receipt of a final report, this for just one sampling of the four plants. When this sampling frequency is increased, delays can only become more of a problem.

If we add the requirement to do Bio-Assay's, which is completely new to most, if not all the treatment plants, there will be a need to hire more staff to handle this load, or the work will have to be contracted out.

(g) SUMMARY

The new effluent analysis and the MISA program will require more formalized operations and maintenance procedures in order to ensure adherence to the guidelines. There will also be a requirement for better training. Certification of Operators is a way of ensuring an adequate standard of knowledge.

Storm flow or by-pass caused by storm flow must be recognized in the Certificate of Approvals. To insist on no by-pass is simply ignoring the inevitable and would not stand up to the scrutiny of cost benefit analysis.

There must be redundant or stand-by equipment and tankage to permit regular maintenance of equipment without the loss of capacity. We must also deal with the problems that the MISA effluent analysis will bring. The cost is prohibitive and the ability of the laboratories to handle this load is questionable.

ABSTRACT ONLY

THE USEPA TOXIC REDUCTIONS PROGRAM

Henryk Melcer, of Environment Canada's Wastewater Technology Centre, stepped in at the last minute to present a paper on behalf of the United States Environmental Protection Agency, on their procedures to evaluate methods of measuring toxicity in municipal sewage treatment plant effluents.

The paper also reported on a series of laboratory simulations which measured the effectiveness of different unit processes in removing toxicity. These processes included air stripping, filtration, adsorption and ion exchange. Extremely high removal rates were experienced when processes were run individually or in series on target toxic chemicals.

THE IMPACT ON MUNICIPALITIES

by: Clare Bauman,
Regional Municipality of Waterloo

I wish, first, to extend to you greetings from the Regional Municipality of Waterloo. I understand these one day seminars are usually held in Toronto. I hope you enjoy your brief stay here and that your deliberations today are profitable.

I will give you a brief background profile of the Municipality to provide comparisons. The Regional Municipality of Waterloo is comprised of seven Municipalities, contains 519 square miles and approximately 325,000 people.

The Region has 1,200 industrial and commercial enterprises which are served by separate storm and sanitary sewers. The waste water is directed to one of eleven waste water treatment plants before discharge to a receiving watercourse. The industrial base consists of the following major groups:

- i) food and kindred products,
- ii) textile,
- iii) beverage,
- iv) metal fabricating and finishing,
- v) chemical and allied products,
- vi) automotive,
- vii) foundaries,
- viii) rubber and miscellaneous plastic products,
- ix) leather and leather products.

but has industry in all catagories provided in the new model by-law.

Industrial discharge inspection, analysis, and enforcement began in the Region in 1973. The Regional program is supported by a laboratory facility which provides the testing and reporting to local businesses.

Statistics are: Staff: twelve
 Vehicles: four
 Lab Space: 7,500 square feet

The operating budget for 1988 is \$438,806.00. The Region anticipates revenue from industrial surcharges to exceed \$1,250,000.00 in 1988.

The proposed annual current and capital budgets are as follows:

- Total current \$17,307,000.00 which includes laboratory, waste water treatment and administration.
- Total capital \$17,799,000.00 which includes construction of a new laboratory at \$3,300,000.00.

OVERHEAD: WASTE WATER TREATMENT RATES (Table 1)

Regional Municipality of Waterloo

Wastewater Treatment Rates

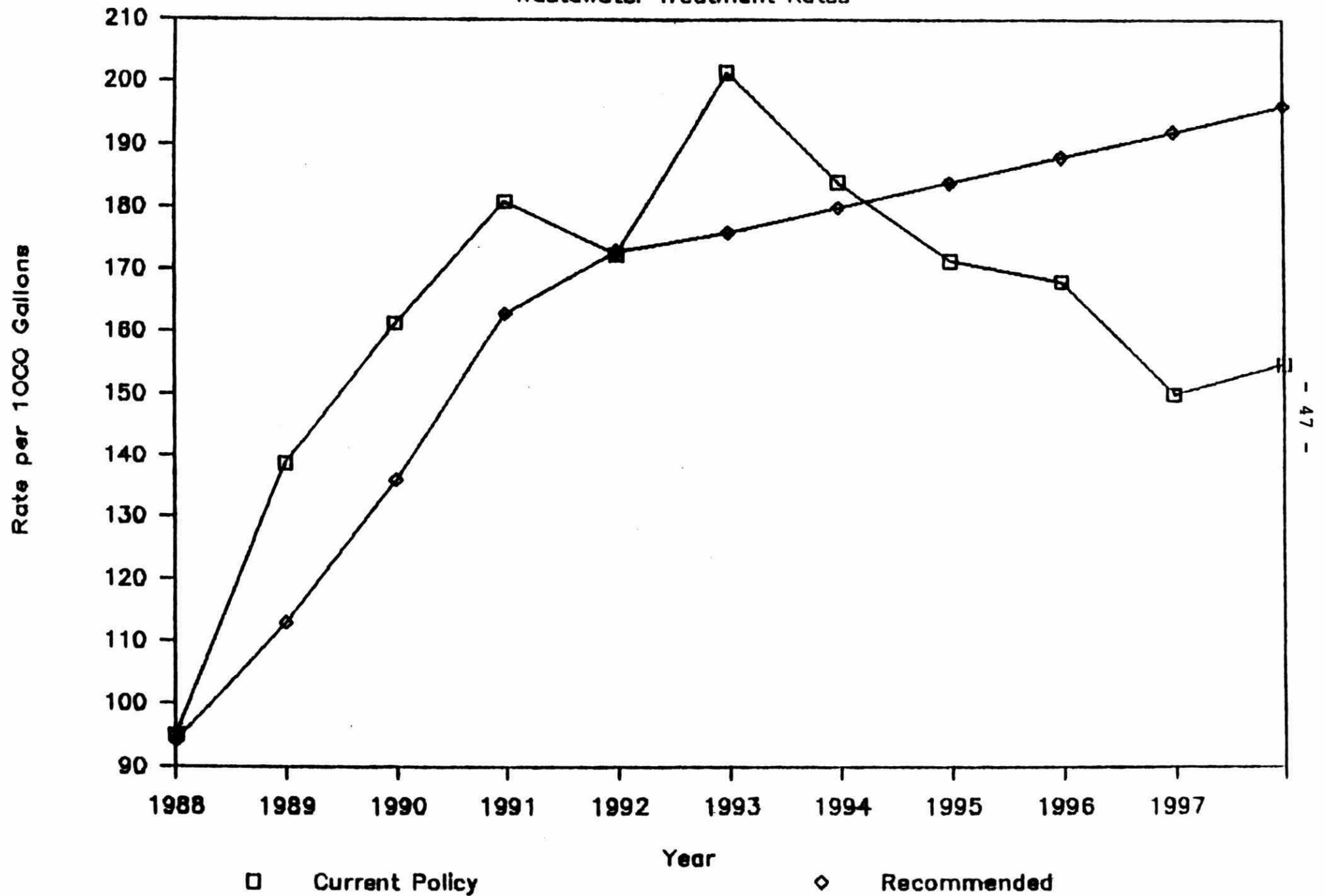


TABLE 1

This overhead shows the Waste Water Treatment Rates anticipated during the next ten years. The rapid rise is caused by capital projects, largely in waste water upgrades, expansions, and the significant impact of new criteria for waste water plant design and discharge. The total expenditure in capital projects over ten years is expected to exceed \$100 million.

I would like to examine the estimated Capital and Operating costs for enforcement as our Region foresees it, together with cost estimates in the Ministry of the Environment Discussion Paper "Controlling Industrial Discharges to Sewers".

OVERHEAD: ESTIMATED ANNUAL MUNICIPAL OPERATING COSTS (Table 2)

OVERHEAD: REGION OF WATERLOO ESTIMATED ANNUAL OPERATING COSTS (Table 3)

The Region of Waterloo has an advanced program in place. We do not expect to receive a large amount of funding from the Ministry of the Environment to help us develop programs.

However, the Region has received a commitment for 1/3 funding of a new Regional Laboratory estimated to cost \$3.3 million. This M.O.E. commitment still leaves \$2.2 million to be born locally.

ESTIMATED ANNUAL MUNICIPAL OPERATING COSTS		
Cost Feature	Current Cost	Cost Under Proposed Program ^{1, 2, 3}
Total sewer use program cost per year	\$3,800,000	\$20,600,000
Municipal personnel required	95	270
Cost per capita	\$0.54	\$2.73
<u>Note:</u> ¹ Total annual sewage servicing operating budget in 1985 (excluding capital) in Ontario was \$269,000,000. ² Total annual sewage servicing charges collected in 1985 in Ontario was \$231,000,000. ³ Total annual municipal budget in 1985 (excluding capital) in Ontario was \$6,513,000,000.		

TABLE 2

REGION OF WATERLOO ESTIMATED ANNUAL OPERATING COSTS		
Cost Feature	Current Cost	Cost Under Proposed Program
Total sewer use program cost per year	\$500,000	\$1,200,000
Municipal personnel required	12	26
Cost per capita	\$1.42	\$3.43

TABLE 3

Municipal/Industrial Strategy for Abatement

The Municipality will have to await the final Regulations for the Municipal Sector in order to fully assess costs. However, if organic contaminants are as ubiquitous as heavy metals, we can anticipate a significant workload to generate. This work will be processed through the staff and laboratory already anticipated. Philosophically, it is the Region's policy to protect the waste water treatment plants through point source control at the industries.

Waste Water Treatment Plant Discharges

This is the area of large, capital intensive upgrades and expansions. In order to achieve no degradation of receiving water quality objectives, an expansion to a waste water treatment plant automatically triggers more stringent discharge criteria.

In order to maximize the servicing ability for waste water treatment and not overstress the receiving watercourse, the Region and Ministry of the Environment have attempted to balance loading throughout the drainage basin. You will hear more of this in a paper this afternoon.

I will illustrate what happens to project costs as these new objectives "click in".

This project is the Cambridge (Galt) Waste Water Treatment Plant expansion/upgrade. I would like to demonstrate several aspects of the enhancement grant. The discharge criteria for the expanded project are for a maximum 30 day consecutive average flow rate of 56,800 m³ per day.

These are:	Suspended Solids	15 mg/l
	Total Phosphorus	0.6 mg/l
	NH ₃ -N	2 mg/l
	B.O.D. ₅	15 mg/l

Non-compliance levels were established as

B.O.D. - 25 mg/l. Phosphorous 0.6 mg/l

S.S. - 25 mg/l. Ammonia 3 mg/l

It is also necessary in this facility to provide for no planned by-passes. These costs are based on estimates included in the "Draft" Pre-Design report.

1. 33% subsidy on items that are required for purposes of plant upgrading to meet more stringent requirements of M.O.E., etc.

- No "planned" bypasses
- Reduced ammonia - nitrogen in effluent
- No increase in phosphorus discharge

2. Items as per cost estimates in Pre-Design Report

- 1) Raw Sewage Pump Station \$1,280,000 -
to meet "noplanned by-passes", capacity in excess
of peak dry weather flow to meet no by-passing
requirement i.e.

PDWF \$ 90,900 m³/day

PWWF 171,100 m³/day

Difference 80,200 m³/day

80,200 x \$1,280,000

\$ 600,000

171,100

ii) Aeration Tanks - \$2,850,000

Increase in capacity of expansion purposes

$$56,800 - 38,600 = 18,200 \text{ m}^3/\text{day}$$

Increase in capacity of nitrification purposes

$$38,600 - 21,000 = 17,600 \text{ m}^3/\text{day}$$

For nitrification purposes

$$= \frac{17,600}{18,200 + 17,600} \times 1,850,000 \quad \$1,400,000$$

iii) Blower Bldg/Return

Sludge Pumping - \$1,700,000

Same % as aeration tanks \$ 836,000

iv) Final Clarifiers \$1,590,000

Surface area existing 1641 m^2

To increase capacity of expansion would require $\frac{56,000 - 38,650}{38,600}$

$$= 51.8\% \text{ i.e. } = 850 \text{ m}^2$$

Actual increase - 1508 m^2

Part for nitrification =

$$1508 - 850 = 658 \text{ m}^2$$

therefore costs for nitrification

$$= \frac{658}{1508} \times \$1,590,000 = \$ 722,000$$

v) Effluent Filtration - \$2,400,000

the entire item is for purposes of
increased restrictions on phosphorus
discharges

\$2,400,000

vi) Ultraviolet Reactors - \$1,100,000

38,600 x 100% is for

56,800

improved effluent (68%)

18,000 x 100% - 32%

56,800

is for expansion purposes
therefore 68% x \$1,100,000 is
for improved effluent and more
restrictive handling/feeding
facilities

\$ 746,800

vii) Electrical - \$900,000

This is difficult to apportion.

Items which relate to more restrictive
requirements include

- standby power to eliminate by-passing
- increased treatment particularly
aeration to meet reduced ammonia -
nitrogen requirements.
- effluent filtration to meet
reduced phosphorus concentrations
on the plant effluent

It would seem that at least 50% of
the costs relate to the increased
treatment requirements \$ 450,000

viii) Effluent Pumping Requirement - \$250,000
This entire item is for purposes of
increased environmental protection \$ 250,000

ix) Site Improvements - \$500,000
Very little of this item is for
enhanced treatment but perimeter berms
are for increased environmental
protection \$ 75,000

x) Instrumentation & Control - \$1,000,000
This item is difficult to assess but we
would suggest 1/3 of the requirements
would relate to enhanced treatment
facilities \$ 330,000

xi) Modifications to Digesters - \$500,000
This is an allowance suggested for
possible repairs/modifications. 50%
could be assessed as for upgrade
modifications \$ 250,000

Sub-Total	\$8,061,000
10% Estimating Cost	<u>806,000</u>

TOTAL	<u>\$8,867,000</u>
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33% Grant would be	\$2,926,000
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if only 15% Grant would be	<u>\$1,330,000</u>
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When the plant was re-rated to establish the capacity of the facility at the new discharge criteria the plant was found to have a hydraulic capacity of 4.62 MIGD. The Region feels the enhancement grant should be applied to the lost capacity already installed at the plant. Therefore, we are asking for a 33% enhancement grant on:

$$\frac{12.5 - 4.62}{12.5} \times \$21.2 \text{ million} = \$13.36 \text{ million}$$

instead of \$8.87 million. This amounts to an increased request of \$1.48 million.

PANEL DISCUSSION

The final session consisted of a lively panel discussion. Panel members included several of the presenters, with the addition of George Powell, of Gore & Storrie Limited, Werner Lewandowski, of the Ministry of the Environment, and Bruce Jank, of the Wastewater Technology Centre.